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RESPIRATORY INFECTIONS IN CHILDREN

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Since it is true that from October to May the time of the average medical practitioner is going to be chiefly occupied with treating respiratory infections, their complications and sequelae, occurring largely during the first decade or two of life, we should find it profitable to devote a little time to the consideration of this commonplace group of ailments at this season. In a general way we place in one group the milder diseases of the upper respiratory tract—such as rhinopharyngitis, tonsillitis or the common cold—and in another group the more serious involvements of the lungs and bronchial tubes. This discussion takes up more especially the first group, dealing somewhat in generalities without any effort to be highly scientific or to go into the finer classifications.

Such a widely prevalent condition as the common cold has naturally attracted much attention on all sides. The opinion might be ventured that it is a beneficent process. That by somewhat periodically innoculating the individual with more or less attenuated bacterial toxins or products it acts as a vaccination process, bringing about immunity against the more virulent strains or groups of organisms. Thus may a measure of protection be had against attacks of severe bronchitis or the pneumonias. Such a theory is given some weight by the rather common observation that many of our most severe cases of pneumonia occur in persons who have previously been robust and healthy, enjoying unusual freedom from respiratory infections. No degree of immunity has been established in such persons by repeated mild infections. The opposite and most popular viewpoint holds that the common cold is one of the most formidable enemies of mankind. That it is a leading factor in our morbidity rate, that it results in greater economic loss and is responsible for more widespread and serious consequences than any other community aliment. Whatever might be said on either side matters little. The fact remains that the public is constantly appealing to the medical profession for a greater degree of relief from such a scourge.

Now, for a brief discussion of the causes of respiratory infections in children. In a general way these can be taken up under these headings:

1. Individual susceptibility.
2. Deficiency conditions.
3. Improper heating and ventilating of houses.
4. Improper clothing.
5. Exposure and chilling of the body.
6. Diseased tonsils and adenoids.
7. Contact with infection.

It is probable that most infants are born with a relative degree of immunity against respiratory infections that is rapidly lost during the first few months. After this, susceptibility seems to be at its highest up to four or five years. Then most individuals begin to develop a certain amount of acquired immunity. This reaches a much higher degree in some persons than in others of course. There is a familial or hereditary tendency to possess a high or low degree of immunity.

A somewhat broadened knowledge concerning the different vitamins and the effects on the animal organism of a prolonged diet that is deficient in one or more of these leads us to believe that they can play an important part in the degree of susceptibility to respiratory infections in early life. Especially do we feel that an insufficient intake of vitamins A, B and D leads to a high degree of susceptibility. Care must be exercised to see that all infants and young children receive daily sufficient amounts of the various food substances that are rich in these—milk, butter, egg yolk, cod liver oil and green vegetables.

In this section of the country possibly the most important factor of all is improper heating and ventilating of houses. We would estimate that from 60 to 75 per cent of the homes into which we go are overheated during the winter. Most of them are kept at around 80 degrees F. during the greater part of the day. Few children can live in rooms with gas stoves burning, windows nearly all closed and a temperature averaging close to 80 degrees during the day without becoming quite susceptible to colds. And when once contracted in such surroundings a cold is apt to last practically all winter. Doctors owe it to their patients to give this matter some attention. Show parents where to properly place a good room thermometer—on an inside wall, about five feet from the floor, away from the stove or windows. They should be taught to regulate the temperature by this and not by their own feelings, keeping it as nearly 70 degrees as possible during the day. Many women dressed as scantily as the prevailing fashion demands complain about this being too cold. When the day temperature is kept at this level, the child may be subjected to exposure, chilling or becoming uncovered at night without necessarily having a cold afterwards. The artic explorers are generally quite free from colds, although subjected to all kinds of exposure.

Heavy indoor clothing, sufficiently heavy to cause the child to perspire when it romps and plays, is quite a factor. So is insufficient outdoor clothing with bare knees and legs during cold, windy, cloudy weather. The importance of chilling of the body, exposure and going with wet shoes and stockings is too well understood to require comment.

It is felt that the subject of diseased tonsils and adenoids has been too well discussed in recent years to warrant our taking it up here.

Obviously, contact with what might be termed massive doses of the causative organisms is highly conducive to infection. To take a child during this early age of high susceptibility into crowded places during a season when large numbers of people are coughing and sneezing and saturating the air with germs, is to strongly invite trouble. When a parent, nurse, nursemaid or any other person suffering from a respiratory infection takes care of and plays with a child the probabilities are very high that the condition will be transmitted.

The symptomatology is so well known that it can be passed over.

In discussing the treatment we wish first of all to make a plea for a more serious consideration and a more careful management of all kinds of respiratory infections. No doubt we here have an opportunity to anticipate and to forstall many serious factors contributing to the morbidity and mortality rate at this time and in later years. The first thing that is commonly neglected is the examination of the patients. They cannot be looked at from a distance and properly prescribed for. When an infant or young child is seen, either in the office or in the home, with an infection of the respiratory tract it should be given a complete examination. An accurate rectal or oral temperature should be taken. The chest should be carefully gone over—especially if there is an elevation of temperature. Auscultation through the stethoscope gives us about all the information we need here. The cervical lymph nodes deserve particular attention. Unless a man is equipped to inspect the ear drums of all these patients who run temperatures and who are too young to present dependable subjective symptoms, he is not qualified to properly treat them. It is possible for the doctor in any locality to carry a small electric otoscope in his pocket or hand bag and to familiarize himself with the use of it. A stethoscope is hardly more essential. If one does not know the normal from the abnormal ear drum, he can soon learn the difference by just continuing to look at all of them. Otitis media is extremely common and easily overlooked. In fact most cases are missed where the diagnosis is made only by the presence of a discharging ear, for a relatively small per cent rupture spontaneously. A careful inspection of the throat, preferably with the aid of a small flash light should be made.

Now as to the management. All children with respiratory infections should usually be kept indoors until well. Those with a temperature, however slight it may be, should be put to bed and kept there for at least 24 hours after they are entirely and continuously normal. Some parents find it almost impossible to carry this out. Insist on their coming as near to it as possible. Occasionally we see grippe infections where there is a daily elevation of temper-

ature for several weeks. Insist on the child being kept in bed throughout this period no matter how long it runs. Such a child has no business being up and about. During the acute stage with fever, reduce the diet to liquids and cooked cereals. Nature generally cuts down the intake of food by taking away the appetite. It is usually a mistake to urge food. Allow the appetite to take care of this. Just how much good results from the proverbial dose of castor oil is debatable.. Personally, we do not insist upon it. But the bowels should move well at least once daily, mild laxatives such as milk of magnesia or enemata being used if necessary. It is important to insist upon the fluids being pushed to the limit to insure good elimination. Most of these little patients are restless, uncomfortable and generally miserable. It is our duty to make them as comfortable as we can with safety, enabling them and the rest of the family to get as much sleep as possible. A good percentage of them require some form of sedation. Dover's powder in small doses is very satisfactory. For young infants it makes a good cough sedative and is valuable for relieving the discomfort attending severe pharyngitis or otitis media. A fair dosage for babies under a year of age is 1-10 to 1-5 grain every two or three hours. Two or three grains of bromide every three hours often works well. When there is much temperature, a grain of aspirin every two or three hours is quite safe. For a rhinitis with nasal obstruction, liquid albolene with one or two grains of menthol to each ounce or a weak solution of ephedrin instilled with a dropper every three or four hours helps. If there is much nasal discharge, a fresh 10 percent solution of argyrol or neo-silvol is popular. Nearly all cases with a purulent nasal discharge over a long period of time have sinus infection. For the inflamed tonsils and pharynx, swabbing once or twice daily with 10 percent argyrol or 2 percent mercurochrome is advisable.

Where there is bronchitis a cough sedative is usually necessary. Some preparation containing paregoric works best with children. Expectorants are not so useful as in adults. Mothers generally like to apply camphorated oil to the chest and the writer does not discourage this practice. Any favorable influence is probably the result of the sedative action of the camphor that is inhaled. In cases of severe bronchitis mustard plasters are still used in older children and it is felt that the counter irritation is beneficial—just in what way would be difficult to explain. Inhalations of plain steam or tincture of benzoin compound benefits cases of severe laryngitis or bronchitis in small children. Atropine should be given when the secretion of mucus into the bronchi and trachea is too profuse. Marked cervical adenitis is sometimes a distressing thing. Syrup of iodide of iron given internally is believed to have a favorable effect in reducing this and should be used. The writer uses hot applications locally when the child will tolerate it. Otherwise counter irritation with iodine is used. When pus forms, of course, it must be evacuated.

The necessity for examining the ear drums has already been emphasized. Where these are simply red and painful, 4 percent phenol in glycerin should be instilled about every four hours. If the child has fever and the drums are bulging, they should be incised without delay. The commonest mistake is to let them go too long thereby prolonging the suffering and increasing the danger of complications.

One thing should be strongly emphasized. When a female child continues to run temperature longer than should be expected the urine should be examined. Especially is this important in children under two years of age and when the temperature is irregular. Many a case of pyelitis is allowed to drag along for weeks without being recognized. It is a frequent complication. As a matter of fact we are told to examine the urine in every case that runs a temperature. In a busy general practice this is almost impossible. But we should not overlook these cases of pyelitis. It is seldom seen in boys but is very common in girls. In the presence of a prolonged intermittent fever the diagnosis is usually made by the finding of many pus cells in an uncentrifuged specimen of urine. In the presence of clinical symptoms, one should not be satisfied with a single negative specimen. It is sometimes impossible for mothers to secure a specimen. If it looks like pyelitis clinically treatment should be instituted as this can do no harm. Promiscuous catheterization is not advisable but in certain puzzling cases this is a justifiable procedure.

Attention should be called to one other possible complication. The prominent part now played by heart disease in the morbidity and mortality rate at various ages

is quite well known. A good per cent of these cases develop during childhood and as a complication or sequel of tonsillitis. Secondary heart conditions are uncommon under four years of age, but in children older than this, every case of recurring tonsillitis should be looked upon as a potential case of cardiac disease. The heart should be watched and no child with an attack of acute tonsillitis should be allowed to be up and around until the pulse has slowed down to about the normal rate.

Respiratory infections of any severity usually leave children irritable, somewhat anemic, with impaired appetites and in a generally run down condition. Efforts should be made to build them up. They should have daily sun baths when the weather permits. Those who are very pale and flabby are benefitted by a few general exposures to ultra-violet rays. Syrup of iodide of iron is a good tonic for a while. They nearly all benefit from cod liver oil.

In closing may we make a plea for more attention to preventive measures in connection wtih respiratory infections. Believing that the deficiency conditions play a prominent role in the etiology, we feel that it is very important to see that the diet of all infants and rapidly growing children contains an abundance of the different food substances that have been found to be good sources of the needed vitamines. Cod liver oil and sun baths are necessities. Diseased tonsils and adenoids should not be a continued menace to the child's health. Parents should be taught to avoid taking young children into crowded places when colds are prevalent. They can be instructed about proper heating and ventilating of houses, and they can be taught to give more serious attention to measures for preventing colds and for treating them after they have developed.

TUBERCULOSIS IN CHILDREN

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This subject is receiving more and more attention by physicians in the last few years. Not that there is an increase in the disease among children. On the contrary it is found where careful records have been kept that a reduction of perhaps fifty per cent has occured in twelve years. For instance in Minnesoto in the period 1915 to 1926, inclusive, the tuberculosis death rate in children under 15 was reduced 50.5 per cent whereas the reduction in all ages was 36. There was a 60.3 percent reduction in the group under one year of age.

There has been an organized campaign of education for tuberculosis prevention the past twenty-five years. The organization leading this campaign has been the National Tuberculosis Association with its various state and county divisions. It has been guided and supported by far seeing physicians. The rate has declined to approximately two-fifths the rate when the organized campaign was started, and this disease is now fifth or sixth among the causes of death whereas it was first. The public generally is now hopeful of complete control and eradication. The medical profession did not always believe tuberculosis prevention to be possible; maybe prevention was believed to be theoretically possible but not practically so. Success thus far has convinced the medical profession and those of the public who have given the subject attention that complete control and eradication is possible, and practical.

The campaign in the future, perhaps the next twenty-five years, must be intelligently waged to be as successful as the past quarter century. It is a formidable task, but certainly not as discouraging an outlook as faced the few optimists starting the fight in 1904. Those students of tuberculosis prevention who are leading the effort to anticipated success believe that childhood tuberculosis must now receive our greatest amount of attention. This article, we hope, will stimulate more interest among physicians in Oklahoma. According to records, tuberculosis deaths among children in Oklahoma are less than one-half the rate in states with approximately the same general tuberculosis rate. Is this fact due to a peculiar situation existing in this state or a failure of physicians to diagnose tuberculosis in children? Whatever the answer here is a subject that should engage our attention. As a suggestion for closer observation or better diagnosis: It was found in the twelve year group of Minnesoto children's deaths under 15 years of age that almost 50 percent were from tuberculous meningitis, and that 64 percent of the group under one year were of this type; and 24 percent of all this group occurred under one year of age.

Physicians have not given tuberculosis the attention in the past that they have

other diseases. There have been many reasons for this but chief among them has been the unsatisfactory results of treatment of adults in private practice. Perhaps another is the fact that due to the chronicity of the disease a great majority of cases become penniless and must go to public sanitoria to even get food. But with our advancing tuberculosis program it is to be seen there is an increasing opportunity for practicing physicians. Treatment of children is more satisfactory than adults. Early diagnosis is possible. The bread winner of the family may continue his work. Parents will not permit, in most cases, even when available, sanitorium care for children.

It is impossible in this article to discuss procedures, methods or findings of tuberculosis specialists who have been attempting to show the way for better diagnosis and treatment of this disease among children. However, some quotations from the October, 1927, American Review of Tuberculosis which was devoted to tuberculosis in children may give food for thought. Dr. Hetherington, in his article on "Malnutrition and Tuberculous Infection", summarizes as follows: "1. Weight below normal is not more frequently found in children in whom latent tuberculous infection is shown by sensitiveness to tuberculin than in those who give no skin reaction. 2. There is no evidence of underweight in children with latent tuberculous nodules of the lungs demonstrated by roentgenograms. 3. In children 1 to 5 per cent underweight, latent tuberculosis of tracheobronchial lymph nodes is more common than in other children. Tracheobronchial tuberculosis is seldom associated with greater loss of weight, and is probably not its cause. 4. A small group of cases indicates that latent apical tuberculosis of adolescence in some instances causes moderate loss of weight, but the lesion may occur with no loss of weight. 5. Underweight has little if any value in the diagnosis of latent tuberculous infection."

Dr. Opie, "Latent Tuberculosis in Children," concluding paragraph:

"Tuberculosis is an endemic contagious disease. Heretofore most of our opinions concerning it have been formed by considering only those instances which have reached a grade of intensity sufficient to make them conspicuous, or, as we say, recognizable clinically. Tuberculous infection that is still in the stage which we know must precede manifest disease and infection which never becomes manifest we designate, for want of a better term, as *latent*. Nevertheless we know that, within certain limitations, this latent infection can be recognized and its intensity be measured by well understood procedures. No clear insight into the contagion of tuberculosis can be obtained unless latent disease is brought within our field of vision. A better understanding of how the disease behaves during its period of latency points the way to the prevention of its more harmful stages."

Dr. McPhedran, "Diagnosis of Latent Tuberculosis," conclusions: "1. When symptoms are sufficient to bring the patient to the physician the lesion is not infrequently in a stage too late for satisfactory treatment. 2. The diagnosis of tuberculosis in its latent or preclinical stage is entirely a practical procedure."

Dr. Austrian, "Evolution of Tuberculosis Infection," conclusions:

"In summary, the study of a group of individuals observed at intervals through a period of 8 to 12 years demonstrates that: 1. Though the maximum opportunity for tuberculous infection of the child is present in the homes of the actively tuberculous, extradomiciliary and extramural foci are also important sources of early contamination. 2. The variations of the response to the Pirquet test indicate that tuberculous infection may vary in degree from time to time, even when it has been acquired in earliest childhood. 3. Roentgenographic evidences of moderate enlargement of the mediastinum, of slight fibrosis of the lungs, or of old localized infiltration of the base of the lungs remain unaltered through a period of years, even when they are present in young children that react positively to tuberculin when tested according to the method of Pirquet. 4. The number of young individuals exposed to the risk of tuberculous infection that will develop clinical tuberculosis is relatively small if contact with the source of infection is removed, and good conditions of hygiene and of diet are established."

There is an opportunity in Oklahoma for physicians to render some effective service to the state, and to the credit of the medical profession, through an organized program of diagnosis and treatment of tuberculosis in children. In fact to keep pace with the rest of the country we must give the matter greater attention. An article of

interest on a state tuberculosis program, by Dr. Haygood, appears in the Southern Medical Journal for August, 1929. It is our hope that Oklahoma can inaugurate this sort of a campaign with special reference to childhood tuberculosis.

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HYPERTROPHIC STENOSIS OF THE PYLORUS

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HISTORICAL

The earliest description of this condition was by Beardsley in 1788. During the century following, a few cases were reported, but the subject was first brought prominently before the medical profession in 1887 by Hirschsprung.

Following Hirschsprung's paper, which was read before the German Pediatric Society, discussion was lively as to the cause of the hypertrophy and the methods of treatment. The debate as to the origin has not as yet been entirely settled. The development of the treatment given in detail would constitute a fascinating story in the history of modern pediatrics and surgery. Surgery of the stomach was receiving a lot of attention in the late eighties and early nineties of last century. Pyloric stenosis in adults was a favorite subject. Certain surgeons, some of whom are yet active, advocated and performed plastic operations on the pylorus. Others employed gastro-enterostomy as the method of choice. Both groups were getting favorable results in their adult patients.

With the establishment of hypertrophic pyloric stenosis in infants as an entity, surgeons were ready to offer the procedures found to be satisfactory in adults. In both types of operation the mortality was high. Analysis of the causes of such high mortality and subsequent events have proven that the time consumed in performing the operations was the outstanding factor in its causation. The operation which is now universally employed requires but a few minutes for its performance—10 to 14 minutes by a dexterous surgeon with well trained assistants. But if 20 or more minutes is consumed the mortality is not better than gastro-enterostomy requiring an equal time for its completion. A near accident led to the discovery of the Rammstedt operation. Rammstedt was endeavoring to perform a plastic operation on the pylorus according to the method of Fredet. The principal of the Fredet operation was to make a longitudinal incision in the pyloric mass and, by suture, convert the incision into a transverse one. Time was consumed by Rammstedt while replacing sutures which would repeatedly cut out in the tying. The infant's condition became so serious that he abandoned the suturing, dropped the pylorus back and closed the abdomen. The child recovered and was relieved from further symptoms of obstruction. Following this Rammstedt deliberately planned the operation of incision of the mass down to the mucosa, and spreading the lips of the incision to permit the muscosa to bulge into the groove, and in doing nothing more. Again he succeeded. Other surgeons proved its worth. This operation, now generally known as the Fredet-Rammstedt, may justly be termed a classic. It is spectacular in its proper execution, and there are few, if any, operations in the whole category of surgical procedures which are more useful when the indications for its smployment are positive.

DEFINITION

Hypertrophic pyloric stenosis, as the term implies, is a narrowing of the pylorus produced by thickening of its walls. There may be varing degrees of narrowing and varying sizes of tumor masses. In relatively large tumors the passage way through the pylorus may remain sufficiently large as to permit enough food to pass to maintain body weight, and again, a smaller mass may be associated with practically complete obstruction.

Usually, however, the size of the mass is proportionate to the degree of narrowing and, in those cases demanding surgery, is usually of such dimension as to be palpable through the abdominal wall.

PATHOLOGY

The tumor mass is usually described as olive shaped and may be about the dimensions of an ordinary sized olive. The mass or thickening usually ends quite abruptly on the duodenal side. On the stomach side it more often ends abruptly also, but sometimes the thickening gradually shades into the stomach wall. Microscopically the thickening is found to be due to hypertrophy of the circular muscle fibers. Occasionally the longitudinal fibers show a similar change and there is sometimes a hyperplasia in the submuscosa. The mu-

cosa and serosa are normal. There are no circulatory changes, and no round cell infiltration. The mass is peculiarly white and is practically free from blood vessels. The stomach, otherwise, is normal, except that in long standing cases it may be dilated.

ETIOLOGY

The congenital origin of the hypertrophy is now generally accepted. However, certain facts have not been satisfactorily explained. The infant is normal at birth. There is only the usual initial loss of weight and this is regained normally in the average time. Development starts in a normal way and continues until somewhere between the 2nd and 4th week when the initial signs of obstruction make their appearance. Rarely do the signs appear before the second week and not often do they make their first appearance after the fourth week. It is stated that premature infants developing this condition show the first signs of it when they would have been between 2 and 4 weeks of age if born at full term.

Curiously enough the trouble very greatly predominates in breast fed children. The authors of a well known text on diseases of children, state in a recent edition that all the cases coming to their attention had been breast fed at time of onset of symptoms. Males predominate over females, and race appears to be a factor. It is found in the children only of Anglo-Saxon and Scandinavian people. Search has been made in certain sections of the south and no record of the trouble in negro infants has been found.

SIGNS AND SYMPTOMS

The infant at first regurgitates its food. The reaction is not unlike that which occurs normally following overfeeding. Regurgitation, in stenosis, however, is persistent and increases in quantity until it develops into frank vomiting. Vomiting is projectile and occurs after the completion of the act of nursing. Nausea is not apparent. While nursing the child is restless. The vomitus consists of partly digested food and contains no bile. By the time frank vomiting occurs the weight has become stationary, or is already showing a decline. As the vomiting becomes more persistent and free, the stools become smaller and occur at longer and longer intervals. This is not constipation, although, is frequently described and treated as constipation. The stools are scant because scant material is reaching the intestinal canal. The temperature at first normal, becomes sub-normal as the trouble grows worse. In the severe cases, if not operated, loss of weight is progressive, signs of starvation, and dehydration becomes more and more marked and the infant is reduced to a state of marasmus as it passes into a hopless condition preceding death. Milder cases may maintain stationary weight and during certain periods show slight increase. It is in this type that the diagnosis becomes most difficult.

DIAGNOSIS

In those cases in which the obstruction develops rapidly the diagnosis is not difficult. The signs and symptoms as above described may be supplemented by the fluroscopic examination of stomach with barium in the meal. If the full contents of stomach is not vomited fluroscopic exposures will show stomach retention or, at least, its retarded expulsion. The X-ray would most positively exclude cardiospasm. Observing the infant's abdomen after it has fed, peristaltic waves of the contracting stomach are plainly seen. With the stomach empty, as following lavage, the smaller tumor may be palpated in the line between end of right ninth rib and the umbilical scar. If the liver is very much enlarged it may not be possible to palpate the tumor. Pylorospasm and cyclic vomiting in early infancy might be mistaken for pyloric obstruction. Cases of doubt and the milder cases of obstruction are problems for the trained pediatrician, not only for diagnosis but for treatment also. Indeed the whole question involved in disturbances incident to pyloric obstruction or those conditions which in certain phases may simulate its role is a task to be managed by the pediatrician

TREATMENT

There should be no division into "medical" and "surgical" treatment. The problem to be be met is that of maintaining at least a minimum of nourishment for the proper development of the infant. This is at all times the pediatrician's problem. If in certain cases he can, by judicious selection of drugs and food, keep up a satisfactory state of nutrition, the treatment may be termed "medical." If, on the other hand he finds that the obstruction is of that degree that proper nutrition cannot be maintained, he cannot completely surrender the case to a surgeon. Even the proper selection of cases for surgery and the proper

execution of the operation indicated does not relieve the pediatrician of his responsibility.

It is for the pediatrician to say what cases require surgery and it is his responsibility to prepare for operation, and supervise feeding after the operation. The surgeon's responsibility, is therefore, the proper execution of the operation itself. These remarks are not intended as a salve for the surgeon's conscience in the performance of his task. Advanced cases, those having lost 15 to 20 per cent of body weight, are bad risks for surgery. Acidosis must be combated. For this purpose the intraperitoneal injection of glucose solution has proven most useful. Injection of the solution may be made as often as 3 or 4 times in 24 hours, but the interval between last injection and operation should be at least six hours.

TECHNIC OF OPERATION

Body temperature must be maintained. If the temperature of operating room is not sufficiently high, a thermic controlled table should be used. The infant is secured to a padded board and thoroughly wrapped with only the face and upper abdomen exposed. The field of operation is prepared in a manner as to avoid chilling. With all but the actual field of operation covered the infant is given a pacifier—preferably a gauze sponge soaked with dilute sweetened brandy while the local anesthesia is being injected. The injection is made with a fine needle and includes infiltration of the right rectus, and its contiguous structures above the level of umbilicus. A continous wheal is made in the skin, in the line of the proposed incision. The local anesthesia usually employed is ½ percent novocain solution. Adminstration of ether on the ordinary mask is started simultaneously with the making of the incision. The incision is in the right rectus near the midline. The upper limit of incision is the costal margin and it is 1½ to 1 3-4 inches in length. The incision is carried to the peritoneum and any bleeding points in the abdominal wall are ligated with fine cat gut before proceeding further. On opening the peritoneum the liver and perhaps, at the lower part, the stomach, will be seen.

A retractor is placed which displaces the liver upward and outward. This is held by a second assistant. The first assistant makes gentle traction on stomach and brings the pyloric tumor within reach. Even gentle traction on the pylorus is painful, and without anesthesia would produce shock. It is this part of the procedure, only, which makes a general anesthesia necessary. The surgeon grasps the tumor with thumb and finger of one hand, visulizes it and selects the place for incision which is free from blood vessels. The incison is made in the direction of the pyloric canal, but should not extend beyond the margins of tumor at either end. For safety it should stop one or two millimeters short of these margins. The depth of incision should be safely short of the mucosa. The first assistant grasps and fixes the upper lip of the pyloric incision with a thumb or allis forcep. The surgeon grasps the opposite lip with a similar forcep and by traction downard breaks the uncut muscle fibers in the bottom of incision. Immediately the mucous membrane bulges into the groove. The grasping and spreading is repeated along the whole length of the incision until the break in the muscle forming the tumor is complete and all along the mucous membrane bulges freely. If there are any bleeding points they are ligated with fine cat gut. The pylorus is dropped back, the retractor is removed, allowing the liver to slide down and effectively block the short incision against extrusion of viscera. The administration of ether is stopped, the incision closed, using the peritoneum and muscle as one layer in continuous suture. Chromic cat-gut secures the aponeurosis of the rectus, and the skin and fascia are approximated with fine silk worm or interrupted non absorbable suture. By the time the dressings are applied the infant will be practically out from under effect of ether.

In extreme cases, a transfusion needle may be left inserted through the lower angle of incision for immediate injection of fluid. Usually water in half dram amounts may be given by mouth at the end of thirty minutes after operation and be frequently repeated. Diluted breast milk may be started at the end of six hours, and although cautiously at first, it may be gradually increased under the close supervision of the pediatrician. Treated in this manner with the operative procedure, from the time the incision is started until the last suture is taken in skin, not consuming to exceed 14 minutes the mortality in all cases, excepting the near moribound, should not exceed 10 percent while in selected cases it should be as low as 2 per-

cent. This is presuming that the pediatrician remains in full charge until the infant may be safely left to the care of its mother or nurse.

RESULTS

In infants whose vitality has been greatly reduced, there may be delayed healing of the abdominal wound. Removal of the sutures should be postponed in such cases. The child usually begins to increase in weight in 5 to 6 days and by the end of three weeks is taking normal quantities of food and is, in all respects, free from gastric disturbances, and the stools are of normal size and consistency. X-ray study of stomach function has revealed that the pylorus functions normally, and there are no filling defects as evidence of the former trouble. Post mortem examinations in children dying from other causes, have shown that the pyloric tumor had disappeared following the Fredet-Rammstedt operation.

THE DIAGNOSIS OF FOREIGN BODIES IN THE AIR AND FOOD PASSAGES

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The diagnosis of foreign body in the air or food passages depends upon the history, the physical examination and the roentgenray findings. Such a diagnosis may be made with the aid of only one of these and is frequently made with only two of them. Such diagnoses are often only presumptive until the foreign body is actually seen through the bronchoscope.

The history is often neglected or disregarded except in the most obvious cases. More foreign body diagnoses are missed because the physician does not consider the condition and does not obtain a history, or because he disregards a suggestive history, than for any other reason. Three things may be established by a comprehensive history in foreign body cases: first, the possibility that there may be a foreign body present; second, the probable nature of the foreign body; third, valuable information as to its location.

Parents are apt to consider coughing or choking spells in young children of no importance. Usually, of course, they are of no importance, but this places the burden of eliciting a history of possible foreign body accident upon the physician. In a recent case a mother found a two year old child choking upon a handful of tacks and succeeded in fishing four or five tacks out of the baby's mouth with her finger. The child developed a chronic cough and was treated by several different physicians over a period of four years. Finally, at the age of six, she was referred for a tonsil operation with a diagnosis of "asthmatic bronchitis". The above history was written out in detail on the chart. A roentgenray of the chest showed a tack in the left bronchus. Obviously, had attention been paid to the history as given by the mother this would have been discovered much sooner.

At least a definite hint as to the nature of the foreign body may be obtained from the history. The child may have been playing with a string of beads which broke, or some small metallic toy which disappeared, or she may have been eating nut candy or chewing grass stems and had a choking spell. Such information may be very valuable because the vegetable foreign bodies, especially nuts, produce a very severe reaction in the tracheobronchial tree and may prove fatal to very small children in a few hours if not removed.

If there is a history of painful swallowing or inability to swallow solid food, naturally our attention is directed to the esophagus. If there is dyspnea we think of the air passages, though a large foreign body in the esophagus may cause dyspnea by pressure on the trachea. If there are periodic attacks of cough and dyspnea we think of some object loose in the air passage, probably the trachea, the attacks being caused by changes in position of the foreign body. In such a case there is grave danger in holding a child up by his heels as the foreign body may become impacted in the larynx and cause asphyxia and death unless one is prepared to do an immediate tracheotomy.

The physical signs produced by foreign bodies may be very confusing if one is not familiar with the mechanisms by which these signs are produced. Foreign bodies in the tracheobronchial tree produce entirely different conditions, depending upon whether there is bronchial obstruction or not, upon whether the obstruction is complete or not and upon the nature of the foreign body. A classification of these phenomena upon a mechanical basis has been worked out by Chevalier Jackson. There

are three main groups. In the first, the foreign body acts as a by-pass valve, causing slight or no obstruction and allowing air to pass freely in both directions. In the second group, the intruder acts as a ball-valve, allowing air to pass in one direction only. In the third group, it acts as a stop-valve, not allowing air to pass in either direction.

Small metallic objects or small organic ones which have not yet caused a reaction in the mucosa may not produce bronchial obstruction. On inspection the only indication of a pathological condition will be slight limitation of motion of the affected side of the chest. There may or may not be slight wheezing respiration. Usually there are rales to be heard over the affected area and with the development of irritation and production of excess secretion these will become more marked. They are usually loudest directly over the site of the foreign body. A small metallic object such as a pin may produce practically no reaction at all and the only sign will be the slight limitation of motion. This limitation of motion on the affected side is the most constant of all foreign body signs.

There are definite changes in the size of the air passages during the different phases of respiration. On inspiration the bronchial lumen enlarges and on expiration it becomes definitely smaller. Anyone who has looked through a bronchoscope more than a few times has seen this phenomenon repeatedly. Thus we may see how a foreign body which completely blocks a bronchus on expiration may allow air to pass on inspiration. A foreign body which does not at first block the bronchus may come into this classification, that of ball-valve obstruction, through swelling of the mucosa or the accumulation of tenacious secretions. In this group, air is drawn into the lung which cannot be expelled and an *obstructive emphysema* is produced. If a whole lung is involved the picture is very striking. On inspection, the affected side will appear to be larger than the other and there will be marked limitation of motion. The lung will be hyperresonant or tympanitic, the diaphragm will be lower on expiration and lower or at the same level as the other side on inspiration, the heart and mediastinal structures will be pushed over to the unaffected side especially on expiration. There may be a rough inspiratory sound heard over the affected lung with no expiratory sound or there may be no breath sounds heard at all. Vocal fremitus will be distant and diminished if present. There will be a compensatory emphysema. or hyperactivity, of the unaffected side.

Complete bronchial obstruction is produced by large, tightly impacted foreign bodies or by smaller bodies combined with swelling of the mucosa. The air trapped inside the affected lung is absorbed, the lung collapses and there is an *obstructive atelectasis*. There will be all the usual signs of an atelectasis: apparent small size of the affected chest, limitation of movement, high, fixed or very slightly moving diaphragm, absent breath and voice sounds and the heart and mediastinum drawn over to the affected side. Such a condition of atelectasis usually does not persist for long. There is an accumulation of secretion which fills up the empty lung and a water-logged condition known as "drowned lung" develops. The lung may resume its normal size and shape. There will be limitation of motion, dullness to flatness on percussion, absent breath and voice sounds, the mediastinal structures will move toward the unaffected side on expiration, and toward the affected side on inspiration, and the diaphragm will be fixed or very slightly moving. If the obstruction is not quite complete the signs may be further complicated by moist rales of varying character due to the secretion and a small amount of air. This condition has been erroneously diagnosed as empyema or as pneumonia.

As may be seen from the mechanisms producing them, the above conditions may change rather rapidly from one to another. The excess secretion often present complicates accurate diagnosis and the signs may change very materially in a few hours. Because of this, McCrae emphasizes the importance of repeated physicial examinations. An obscure diagnosis may be very definite a few hours later. He also states that he has never seen real pneumonia in a foreign body case, though he has seen many that were originally diagnosed as pneumonia. Differential diagnosis is rendered much less dificult if one remembers the mechanisms above described.

In cases with esophageal foreign body there are apt to be no characteristic physical signs at all. In some cases with a foreign body lodged at the level of the suprasternal notch, the most frequent site, there is tenderness to pressure posteriorly at the

sides of the trachea or on the trachea at the suprasternal notch. When the foreign body is large enough to cause pressure on the trachea the signs will refer to the trachea. If the cervical esophagus is perforated there will be signs of inflammation of the neck tissues plus emphysema of those tissues. If the thoracic esophagus is perforated a suppurative mediastinitis usually results causing prostration, fever, extreme toxemia and probable death.

The roentgenray is of course of great assistance in making diagnoses. With metallic foreign bodies there is no difficulty at all in determining that there is a foreign body present. To determine the location of the foreign body and the number of them present is but little more difficult. All cases of suspected foreign body should be examined roentgenographically from the nasopharynx to the tuberosities of the ischia. Foreign bodies may lodge in the nasopharynx and they may pass downward into the stomach and intestines. A roentgenray of the chest may not only miss both of these localities but may miss objects in the larynx, upper esophagus and hypopharynx. There are also cases with multiple foreign bodies and, while attention is being directed to one in the chest, another, undiagnosed one may perforate the intestine. Another important point in making a roentgenray study of the chest for foreign body is to take both anteroposterior and lateral plates. This aids very materially in localizing a foreign body in the lung and in determining whether it is in the trachea or in the esophagus. A flat foreign body in the larynx or trachea almost invariably lies in the sagittal plane while in the esophagus such a body almost invariably lies in the coronal plane. In lateral plates the outline of the tracheal airway may usually be seen which also aids in localization.

Foreign bodies which are not opaque to the roentgenrays present much more difficulty. In the esophagus the use of barium mixture is of considerable assistance. Marked obstruction is of course easily diagnosed. If the patient is observed under the fluoroscope while swallowing the barium mixture, a large foreign body may sometimes be definitely outlined. Smaller objects, or flat ones, may allow the mixture to pass freely however. A large capsule, filled with barium, may lodge, at least momentarily, above a foreign body. One must not be deceived here by the normal slight pause at the level of the cricopharyngeus.

In the lung and tracheobronchial tree, one must again bear in mind tne mechanisms by which foreign bodies disturb function. Obstructive emphysema and obstructive atelectasis may be demonstrated very beautifully under the fluoroscope. They may also be demonstrated by two plates of the chest, one taken at full inspiration and the other taken at full expiration. Manges, at the Jefferson Hospital has affirmed that he can diagnose and locate a non-opaque foreign body in the lung as accurately as an opaque one. He also stresses the importance of repeated examinations because of the rapidity with which changes may occur in the chest findings. The writings of Jackson, McCrae, Manges and others present many roentgenray pictures illustrating the above mechanisms.

CONCLUSION

Diagnoses of foreign bodies are more often missed because the physician does not consider them or disregards the possibility of their being present than because of difficulty in making the diagnosis. Complete histories, repeated physical examinations and the use of the roentgenray, together with a knowledge of the mechanisms by which foreign bodies disturb function, will enable one to make most of these diagnoses rather easily.

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THE IMPORTANCE OF ENDOCRINOLOGY IN PEDIATRICS*

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GENERAL CONSIDERATIONS

Although other than glands of incretion are important factors in any medical scheme of child health, the endocrines are steadily coming to the fore. The endocrinologist as well as the pediatrist realizes that the constitutional make-up in the child and the character of his growth and development, are due to environment, nervous influences and also hormone or chemical influences. They realize that the latter are composed of both inherited and environmental factors. In shaping physical features and mental leanings, the endocrines

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play an important part, especially noticeable when we consider the weight relations of the different endocrine glands.

There seems to be five periods of growth distinguishable, each with its endocrine formula. We may point out the hypothyreotic constitution in the child, the thyreotoxic and the hypophyseopathic constitution. In certain families, due to endocrine disturbance, we find exophthalmic goitre, diabetes and obesity. If early discovered by the child specialist, he can employ corrective exogenous influences.

In this connection, much credit is due Dr. William Engelbach for foundation work done at his clinics at the Department of Medicine, St. Louis University School, a decade ago. In his studies of endocrine adiposity, he discussed in July, 1920, in the Medical Clinic of North America, the fallacies of etiology of obesity and the role of internal secretions. In covering the significance of age incidence, he classed the overweight group as infantile, juvenile and adult varieties. In making a diagnostic evaluation of the localization of panninculus in different ductless gland disorders, he illustrated with descriptions of classical cases of thyroid, hypophyseal gonad and puriglandular adiposity. He advised the use of dessicated glandular substance in salol or creatinin-coated capsules. After maximum effect of one glandular substance was obtained, he thought it well to use another in the reduction of obesity. He advised early prolonged use of uniglandular treatment of endocrine disorders, together with ordinary dietetic schemes. In one instance of hypopituitarism, aged fifteen, male, he illustrates the classical girdle, mammary adiposity and aplasia of the genitalia, which disappeared following reaction to treatment.

Dr. Engelbach worked in conjunction with John L. Tierney in conducting a clinic covering pubertas pracox, considered etiologically as gonad, adrenal cortex and pineal. A differential diagnostic table and the presentation of typical cases was followed by the consideration that puberty is of the hypergonad type, with the adrenal cortex and pineal next in frequency. The logical procedure advised "in case of tumor is surgery and in case of hyperplasia or hyperactivity, properly directed radiation or suitable antagonistic endocrine therapy."

Important fundamental work was done in the field of treatment of endocrine disturbance in children by Engelbach subsequent to 1920. In his clinic at the Jewish Hospital (reported in Med. Clin. of N. Am St. Louis, Sept., 1927) he went into the field of infantile defectiveness, differentiating remediable from incurable groups. He advocates early diagnosis from physical rather than mental manifestations—to parathyroid and calcium deficiency as well as pituitary in the juvenile and adult. Other endocrine disorders producing mental defectiveness had a relation to juvenile delinquencies. This learned specialist bespeaks glandular treatment of juvenile criminality. He advises that "all of these conditions demand the earliest scrutinizing attention of the family physican, who in the majority of cases will be able to diagnose the disorders and institute treatment," which in a large percentage of the remediable group of defectives, will prevent serious end results.

Watchful of all signs of endocrine disturbances in the child, the pediatrist will note his general appearance, namely, skin and appendages and teeth; body fat, any disproportion in growth or retardation in development as well as the facies.

Some seven faulty types can be distinguished by the endocrinologist, who has ever in mind the normal picture or type. These seven may be further subclassified but are in general to be listed as dwarfish children, tall ones, the undernourished and the fat, the over alert and the drowsy and finally the languid child.

The infant's skin may show much through its texture, color, thickness, wrinkling and moisture. In the normal child, the scalp has a round margin above the forehead. Aside from secondary characteristics, the nails too may be given a routine examination and will show up certain internal secretory disorders.

There is a constant increase of fat to be noted in the hypofunctioning of the interrenal system in the young, and also in cases of pineal tumors. Head disproportion of growth is readily observed, as also character of the bones—their length, degree of slenderness—slender tapering fingers indicating hyperthyroidism. During infancy and childhood, much can be done to prevent retardaton in speech development, of teeth, mentality, and walking. While biological tests and laboratory studies may be made, it is desirable to em-

phasize the value of simple clinical observation by the pediatrist.

ENDROCRINE THERAPY FOR RICKETS, BLOOD CIRCULATION, ETC.

It is Llewellyn who points out (M. J. & Rec. 121:618, May, 1925) that an endocrinopathy, in certain children, renders their joints more susceptible to the infection of rheumatism and rheumatoid arthritis than the joints of others. In certain cases, where salicylates have not given results, he used thyroid therapy to give relief. The glands at fault are as a rule the thyroids and parathyroids. These defective glands are usually inherited from either parent and are either hyposecretory or hypersecretory.

Rickets may be due to endocrine imbalance inherited from the mother. Delayed dentition and rapid decay are indentified with conditions of the various glands including gonads, thymus and suprarenals. The thymus is atrophied in cases of marasmus and rickets. Evidently, diet alone is non-corrective. It is the deficiency in endocrine glands which affects retention of calcium salts in the body. The endocrines may be stimulated by use of cod liver oil, roentgen ray and sunshine, which rays also help increase blood calcium. Langstein and Vollmer (Ztschr. f. Kinderh. 39-751, 1925) used fresh preparation of hypophysis, thymus, ovary and thyroid with hydrous wool fat, to rub on the skin of affected children on this theory. The children recovered under this treatment, but one recovered merely by simple massage with petrolatum.

To the endocrinologist, it does not appear that the parathyroids alone insure proper bones and teeth, but rather that all the ductless glands must harmonize, with the aid of sunshine and special rays, plus cod liver oil for vitamin D. While adults need a gram a day of calcium, children need twice as much, particularly in milk and in the legumes and eggs. Milk contains 0.1 per cent of CaO, and 500 c.c. would offer the necessary calcium, an excess of which does not harm. However, the parathyroids have a close connection with calcium metabolism.

It was McCallum and Voegtlin who in 1909, demonstrated that the function of the parathyroids is to regulate calcium metabolism. Hyperexcitability of the nerves was proved to be due to diminished calcium in the blood. Collip, in 1924, reported the isolation of this active principle, a protein-like substance or hormone, which maintains a definite level of calcium in the blood. The thyroid hormone stimulates cell activity. The endocrine glands are thus the automatic regulators of our autonomic system.

The various substances used to influence pathologic-physiologic mechanisms are thyroxin for accelerating carbohydrate metabolism, proteins and minerals. Epinephrin is valuable in circulatory troubles, for it relieves vasoconstriction of vascular tissues, resuscitates the heart in syncope and also favors sympathetic innervation in bronchospasm.

H. P. Grossman (Virchows Arch f. Patha. Anat. 265:137, 1927) has examined the parathyroids, the thyroids, and suprarenals for their content in fats and lipoids in a hundred necropsies, many being children. Adipose tissue was present in all but six parathyroids, and eleven thyroids. Intracellular lipoids, chiefly phosphatids and lecithins, were present in parenchyma cells. The presence of fat depends on nutritional state of the individual. The lipoids of the cells of the parathyroids and the thyroid are results of intracellular metabolism, and the quantity expresses the activity of these cells.

PITUITARY GLANDS

Pituitary headache, while occuring especially in adolescents, has been found in younger children. This gives rise to burning ache between the temples, behind the eyes, and may last from a half hour to two days. Its cause is usually a pathologic enlargement of the hypophysis. Pains may be heightened by ingestion of sugar, by excitement or stooping over. Nausea and vomiting is followed by relief. In young children, the condition causes mental retardation, dullness and sluggish mentality. Disorders of the pituitary gland or the hypophyses cerebri produce syndromes of acromegaly and gigantism, if due to overactivity of anterior lobe; and of dwarfism if of under activity. Dystrophia adiposogenitalis is a bilobar deficiency. Underactivity, if of the pars intermedia, and posterior, sometimes results in diabetes insipidus. The latter condition is supposedly due to insufficient production of pituitary, which lowers the renal threshold of excretion. Early age finds many cases of gigantism, with obesity. Roentgenograms and charts of visual fields point to neoplasm of hypophyseal struma. An enlarged hypo-

physis may easily injure the adjacent tuber cinereum.

Anterior pituitary lobe extracts may be fed by mouth to produce some therapeutic effects, but intramusulor injections are more potent. These extracts seem of worth in cases of infantilism, where the epiphyses are not already fused, and in certain types of amenorrhea associated with a degree of infantilism. These extracts have also an effect on the blood sugar curve. Evidence points to the pituitary as the chief centers of the spinal system—the primary source of excitomotor impulses. In underfunctioning pituitary, we find the shipmate of underdeveloped genitalia. With overstimulated pituitary, there occurs an active adrenal system and thyroparatharoid apparatus, which brings about cases of large, firmly calcified limbs and skeleton and oversized genitalia, and also increased sugar production in the blood.

PANCREAS AND SPLEEN AND THYMUS

These two are an endocrinological entity, and there is a close functioning between these organs. It is apparent that the pancreas is of great importance for if it is removed, death occurs. Impaired glycosuria is the result of pancreatic deficiency. The spleen has as its function the conversion of prototrypsin from the pancreas. The product is insulin or trypsin ferment, which has as its function the digestion of albuminoxid bodies in the blood stream.

As regards the thymus, if this is enlarged, it will show up in the Roentgenogram of the chld's chest, and X-ray treatment is indicated. There is difficulty in breathing and cyanosis. Undernourishment exists without other signs. The breath holding and cyanotic attacks suggest the possibility of enlargement. Vomiting becomes pronounced, with large gastric peristaltic waves. The thymus seems to elaborate complex nucloprotein granules.

SUPRARENALS

Following castration and ovarian excision, the suprarenals show hypertrophy. The phenomenon of menstruation is present when the corpus luteum functions. Mobilization of sugar is then increased. The majority of adrenal tumors progress rapidly after first symptoms. Sarcoma or lymphorsarcoma are considered to be of neuroblastic origin. These neuroblastoma or neurocytoma are derived from the medullary portion of the gland and are seen during infancy or early childhood. Of some seventy cases, 34 percent occurred in a series in children, the majority males. Even though one of the suprarenal glands is affected, there can be brownish pigmentation of the skin, tumor mass, weakness and gastro-intestinal symptoms.

OBSERVATIONS ON THE SKIN

Disordered ductless glands may produce serious cutaneous disturbance, for the skin is part of the coordinated organism, and thus reveals much to the endocrinologist in his survey of the ailing child, giving indications of the plainest character. Congestive and inflammatory changes bring us to the condition of the ductless glands. Scleroderma with its collagen bundles is a disorder of nutrition. Salves and mischevous rays are not an important part of the armamentarium of the pediatrist in treating such conditions of the skin. A disordered ductless gland can produce grave cutaneous disturbance, as in myxedema as a consequence of hypothyroidism. Teachers of dermatology need to make obvious deductions from endocrinology and look to lesions that are not actual neoplasms, to errors of nutrition due to defective ductless glands, which produce defective circulation.

Not only the skin but general circulation, etc., may be toned up. Parathyroid extract stimulates calcium metabolism in tetany and is otherwise valuable in correcting faulty coagulability of the blood, in jaundice, in soothing the nervous system in epilepsy, and promoting the formation of callus after fracture. Pituitary is useful for post partum hemorrhage. Insulin aids emaciated and cachectic children, and also is administered to the prematurely born, besides combatting traumatic shock and in cases of infantile vomiting and diarrhoea, preventing too much aqueous loss.

THYROIDISM

In producing the symptoms of sporadic cretinism, other members of the endocrine system besides the enlarged thyroid are responsible, for instance the anterior lobe of the pituitary gland. The function of the pituitary seems to be impaired by absence of thyroid secretion. As a result we find retardation of skeletal growth and teeth, and of the umbilical ring and closure of the fontanelles and sutures. The stunted thyroid is not so easily observed, but insufficiency of function becomes more evident whenever there is an extra strain on the system of the child, as by shock or psy-

chic trauma, infection or toxemia. Congenital inferiority of this gland causes a lack of vital endurance, and disturbance of the other endocrines, which shows up in a variety of ways when children of the same family are affected. As the functional deficiency of endocrine gland may not be in evidence until in late life, there are numerous children who die young unless errors are detected in time.

Enlarged thyroid glands are not necessarily confined to regions that are supposed to be free from goitre, for there is little difference between sporadic and endemic cretinism. There are injurious sanitary conditions here and there observable together with inferior, degenerated stock. Villages situated in mountainous districts favor the appearance of recessive factors. Hypothyroid children are inferior, less adventurous and ambitious and remain at home.

Iodine hyperthyroidism is found in much younger individuals than is toxic adenoma. There is a rapid onset of symptoms in about two months, with nervousness, loss of weight and strength, tachycardia and insomnia. The marked tachycardia with pulse rate of even 175 may not be affected by large doses of digitalis. Severe restlessness and lack of coordination is extreme. Tendency to nausea is here observed while in exophthalmic goitre there are gastrointestinal crisis with ravenous appetite. The indiscriminate use of iodine develops into nontoxic adenomas. Iodine is found in all the thyroid glands examined in specimens from the sixth month of pregnancy on, and in young children the weigth and iodine content of the thyroid gradually increase with a marked increase noted at puberty. The thyroids of infants are relatively rich in water.

Classifying the various diseases of the thyroid is an aid to treatment. Diagnosis is made as follows: Colloid; adenomatous (non toxic, without hyperthyroidism; and with hyperthyroidism, toxic; iodine hyperthyroidism); exophthalmic goitre; and finally tuberculosis, malignancy, etc., as suggested by Plummer. Colloid goitre afflicts a large percentage of girls between the ages of ten and twenty and many boys in the populous districts, a condition which seems to be increasing with each generation, for which iodine is not a preventive. In nontoxic adenoma, the gland seems to create more iodine to meet the increasing needs of the body and attempts to reproduce itself. These adenomas appear between the ages of twelve and eighteen and frequently become substernal. The pediatrist is not interested in their surgical removal, for the necessity may arise after the age of twenty-one.

Minimal doses of iodine may be given for the prevention of colloid goitre in school children. It was in 1918, that Marino and Kimball contributed to this prophylaxis, especially in endemic regions. However, indiscriminate use of iodine in tablets or table salt was not advocated.

Rare instances of hyperthyroidism are encountered by the pediatrist. Still, exophthalmic goitre is found in children between 3 and 10 years of age. Vascular goitre causes prominence of eyes, fine tremor of the fingers, and tachycardia. Other symptoms that point to this condition are excessive sweating, rapid emaciation, bulimia and thin diarrhea. Mental effects are emotional instabilty, restlessness and overalertness. The Mersenburger triad may be absent, but the accelerated basal metabolic rate is frequently diagnostic. Thyroidectomy is advised only in exceptional cases, if ordinary soothing remedies do not correct the condition.

THE HEALTH EXAMINATION WITH SPECIAL REFERENCE TO THE INFANT AND PRE-SCHOOL CHILD
(A brief review of the literature)

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This article is the first of a short series on the newer phases of the family physician's responsibilities in the field of medicine. Its purpose is to present in brief form the background of the movement as recorded by the acknowledged pioneers in this field. Quotations from these writers with a few brief observations of my own will be given under the following subheads: The Health Examination Defined, The Ultimate Goal, The History, The Scope of the Health Examination, The Health Prescription, Forms and Summary and Conclusions.

THE HEALTH EXAMINATION DEFINED

According to Emerson[1], "The periodic medical examination of apparently healthy persons is designed to detect the early evidences of disorder before discomfort, inconvenience, interference with work, or

anxiety has driven the candidate for examination to seek medical advice for the treatment of established disease." He further stresses the attitude of mind of both physician and patient as special features distinguishing the health examination. Means[3] says that a health examination differs fundamentally from a disease diagnosis alone, a physical alone, or a proctective alone, but, while it includes the essentials of all three, it has in addition thereto "specific health building items." Regarding the health examination of the child, Veeder[2] says. "In childhood the examination has a double purpose; it recognizes incipient physicial defects or diseases . . . . and in addition it is a method of watching and measurng the development of the child," and in another article[4] he adds, "it is my feeling that the health examination should extend beyond the physical side and include the question of mental development in its broadest aspects, for we realize today that the mental growth that takes place during these years are of tremendous import. Further the habit and behavior problems of the pre-school child are intimately related to and connected with the physical problems."

THE ULTIMATE GOAL

In recent years readers of health literature frequently run across these terms: the normal child, the optimal child, positive health. Kellogg[5] has made an effort to clarify the meaning of the first by differentiating the "biologist's normal" from the "ideal normal." "The former may be presumed to be," he says, "the most abundantly represented type among the various types represented in a group of individuals," the latter, (an individual) "sound in body and mind and ushered into the world under the most favoring circumstances." Chaplin and Strecker[6] define optimal children as those "best able to meet the needs of childhood because their bodies are well built and work efficiently." Means[3] defines positive health as being the result achieved by the individual after all his health liabilities, found by the health examination, have been eradicated and all his assets discovered at the same time developed to the examinee's maximum. The ultimate goal is, then, for the subnormal and the "normal" child, optimal health, and for the adult, positive health.

THE HISTORY

Sentiment favoring the health examination was a natural result of the discussions of lay and professional groups of the health status of representative and wide spread bodies of the nation's population at the time of and following the selective draft. Prior to this the pediatrists had pretty well taken over the health supervision of the "infant feeding" cases of the larger cities and the principle of medical examinations of the school children had been accepted. Studies made by the Children's Bureau showed the alarmingly high infant mortality rate and the selective draft revealed the health hazards of the young men. In 1919, a co-operative body called the Woman's Foundation for Health[8] (now changed to Foundation for Positive Health to include men as well) was organized. Its purpose as set forth in its literature was and is "To create a desire for Positive health, and to make ways and means available for obtaining and maintaining it" It published a text on health building in July, 1922. In 1923, the form now in general use by the medical profession for the health examination was perfected and adopted by a joint committee from the Council of Health and Public Instruction[9] and the State Secretaries Association. The medical examination for the purpose of discovering the physical defects of the school child developed after 1912, but before the World War. With the acceptance of the Federal Maternity and Infancy Act in 1921[10], the principle of health examinations of all infants had been accepted and as this showed so clearly the utter neglect of the preschool children it was the natural practice of the examiners and the welfare workers, dealing with the infant, to raise the age limit to include these children, and now, as if to make up for the neglect of the past years, has come the nation wide interest in the summer round-up[11] which lowers the school age to include the five year olds who will enter school for the first time following the health examination in the spring. Dodson[11] says of this latter movement, "It is one of the most important and far reaching movements in preventive medicine of our time." It is sponsored by the National Congress of Parents and Teachers and was inaugurated in 1925.

THE SCOPE OF THE HEALTH EXAMINATION

That the health examination should be accurate, thorough and all inclusive, seems to be the conclusion of all writers on the subject. Not only the physical findings of the applicant are of importance but a knowledge of his mental status, his habits,

his behavior and his environment is vital. Concerning the attitude of the physician, Emerson[11] says: "If anything, the physician must be more keenly alert and his examination must be more comprehensive to detect early, unsuspected evidences of faulty function or structure in the latter than in the former case." Morse[4] observes that "A careful complete physical examination is of even greater value in diagnosis in early than in adult life because the baby and the young child can tell little or nothing as to their subjective symptoms." He further states that[5] "It is impossible to make a proper physical examination of a baby or a child unless it is stripped. It is not enough to loosen or pull up the clothes. Everything must be taken off including the shoes and stockings as not infrequently something will be found in some unexpected locality which will throw light on the diagnosis." Smith[6] advises not only to look for signs of disease but "to discover whether or not there is any departure from the normal." He also stresses the absolute necessity of stripping the child for the examination. Harvey[7] covers the subject humorously in the interrogatory form as follows: "Do we examine children or do we give them the once-over? Do we remember that a child has height, weight, a build, speech, mentality and facial expression? That he has a head, eyes, ears, nose, mouth, teeth, throat, neck and a back as well as a front to his chest, an abdomen with a liver border and perhaps a palpable spleen; that he has genitals, a spinal column, hands, legs, ankles, feet? Do we find that urine, stools and perhaps the hemoglobin are normal?" Concerning the ears, Morse[4] says that "No physician is doing his duty to his patients who does not train himself to look at the ears and then make use of his training," although Veeder[8] thinks it is difficult to examine the hearing of a small child during a routine examination. Veeder[8] also believes that no satisfactory examination of the vision of a young child can be made except by an experienced ophthalmologist of patience and skill and that possibly 85 per cent of the pre-school age children have good vision. Of those that do not have he thinks most are obvious, as in strabismus. On the other hand, Morse[4], in discussing this subject before a group of physicians, made the assertion that "I am sure there is not a man in the room who has not overlooked crossed eyes until the parents told him about them." Harvey[7] specifically calls attention to certain parts of the physical examination usually neglected, the genitals, when he says, "Parents are particularly concerned as to whether or not the genitals are normal." Morse[4] recommends observing the state of nutrition first, points out that the color of the child is not always an index of the hemoglobin content of the blood and emphasizes the need of observing the posture, saying "if done many patients will be kept from chiropractors and osteopaths." All through the examination the physician should notice whether the child is obedient or not, whether it is nervous, whether it is well controlled and whether it is intelligent. He believes that "The attitude of the parents is just as important as that of the child; whether they expect obedience, whether they are unstable and nervous. Many times the trouble is not with the child but with the parents and it is necessary to work with the parents instead of with the child." Veeder[8] thinks that "The recognition of the 'habit causes' of malnutrition, faulty posture, defective teeth, etc., is as important as the searching out of purely physical causes" and as regards the mental growth by periods, development of personality traits, emotional conflicts, etc., he further states that they must be a part of the health examination but "how such examinations are to be carried out and made practical for general application is a problem that must be worked out."

THE HEALTH PRESCRIPTION

The health prescription, all the writers agree, must be clear, concise, definite and put in writing. Since it is designed not only to prolong life but to promote health and happiness as well, it necessarily concerns itself with many phases of the candidate's daily life. As Means[3] puts it "The person examined wants to know what exercise to take, why to take it, when to take it, and what the technic is; he wants to know what to eat and what not to eat; he wants to bring his diet list back to have it gone over; he wants to be checked up about his grouches, his attitude towards his wife, his work and his neighbors." Emerson[11] observes that "The advice given should consist of written directions to the patient for the correction or limitation of defects or errors discovered. Simple, precise, nontechnical wording should be used and only such measures should be proposed as fall within the possibilities of the patient to carry out." He goes on to say "It will com-

monly be found that social, recreational and other local resources, with which the physician should be familiar, can be used with advantage as gymnasiums, libraries, clubs and community groups of various kinds, for mental and physical development in the interest of health," and further states that the physician will be able to speak much more convincingly about the value of diet, exercise, recreation, etc., if he himself has taken advantage of the benefits offered thereby.

The health prescription of the young child is comprehensively summed up by Smith" in the paragraphs that follow:

"We should outline for the child a satisfactory daily routine and give directions for personal hygiene. This involves the prescribing of the right diet modified according to the age of the child. It is essential in this connection to insist upon proper eating habits—appetite, regularity, eating foods as served and many other matters of this nature. Adequate daily bowel movements must be secured. The requisite number of hours of sleep at night with a daily midday nap up to the sixth year must be provided. The school curriculum and the outside appointments must be systematized. Fatigue must be eliminated, except a wholesome physical weariness following outdoor exercise. We must see that a reasonable balance is established between work and play and that so far as possible the causes of nervous excitement are eliminated. All these matters of detail in the child's day are important factors in maintaining his health. The care of the child's body, bathing, fresh air, and exercise need to be directed from definite medical knowledge and experience."

"We should ask ourselves," Smith continues, "concerning each one of the children coming to us—is he forming healthy habits of mind or is he developing traits of character which will later become true psychiatric reactions? We know that the first five or six years is the most important period for mental growth and during that time we should endeavor so far as we are able, to direct the expanding mental life of the child into healthy channels."

FORMS

Although there are numerous forms for recording the physical findings and other necessary data of persons of all ages from birth to adulthood, none perfectly satisfactory to all examiners, I shall describe only three—those more in universal use and hence easy to secure. They are the Periodic Health Examination form which may be had from the American Medical Association; the development record form from the American Child Health Association; and the Infant and Preschool Conference Record which is sold by the Federal Superintendent of Documents at Washington. The two latter are for children, the former for adults. A subcommittee of the joint committee on Health Problems in Education headed by the chairman of the Bureau of Health and Public Instruction of the American Medical Association is now working on a form for children which will not be ready for adoption before the early part of next year.

The periodic health examination form" is a two page sheet 8 x 10 1-2 inches. The first page is reserved for data the examinee fills in himself, thus saving the time of the examiner. Besides the usual data pertaining to the social and civic status, it covers the occupation, conditions of work, home conditions, sleeping conditions, intervals between food intake, quantity and frequency of the use of certain foods, quantity and variety of liquids used, frequency of bowel movements, exercise, social, religious, club or trade associations, pleasures, recreations and hobbies, disposition to worry, moods, past illnesses, present symptoms, immunizations and vaccinations, accidents, operations, dental history, family history and for women a few questions concerning the menstrual history, pregnancies, etc. The second page is divided into six parts, the first four covering the physical findings, the fifth, the summary and the sixth, the written advice to the patient. The first section includes the measurements and such data as can be obtained and recorded by the office assistant, the second those physical findings best secured with the candidate for examination in the standing position, the third in the sitting position and the fourth in the lying down position.

The development record form" devised by Veeder and Palmer for the American Child Health Association is a four page folder 8 x 11 inches. It is especially prepared to meet the needs of the private practitioner. It is intended for children from one to six years of age. Page one provides space for data on the development during infancy, the past illnesses, record of immunization and a brief record of men-

tal development; the second space for six consecutive physical examinations; the third, special charts for recording the growth and the fourth, records for home weighings at three month intervals with added space for notes.

The Infant and Preschool Conference Record[9] was designed by the Federal Maternity and Infancy Division of the Children's Bureau to standardize the examinations made at the many conferences. It serves the private practitioner very satisfactorily as an office record. As it comes to the examiner it is a four page folder 8 x11 inches with an extra two page fly leaf for follow up notes and remarks. A heavy cardboard family folder can be had for filing. The first page, aside from the usual social and civic data, carries space for the family history, the infant's history, the nurse's record of the neo-natal period, record of immunizations and space for six consecutive queries into the child's habits such as sleep, exercise, hours in the sun, personal hygiene, food, intelligence, personality traits, undesirable habits, obedience, etc. The second and third pages carry columns for six consecutive physical examinations with a like number of spaces for recording recommendations and laboratory findings. The fourth has space for six consecutive queries concerning the food history, past and present, itemizing the quantity, variety, intervals between feedings, etc., and space for follow up. It is of vital importance to have a form that permits several consecutive examinations as Smith[4] says, "Each child should be measured against his own standard."

Space does not permit mention of forms for infant use except to say there is a growing demand for "baby books" that are scientifically arranged. The best I have seen is one prepared by DeLee and Hess[10] which is both scientific and peculiarly ornate, something that especially appeals to the mother.

SUMMARY AND CONCLUSIONS

The health examination is more than a disease diagnosis, a physical examination or a protective examination. Its purpose is not only to discover the present defects and diseases but the present health assets as well and in the infant and young child it is also a means of watching and measuring the development of the child.

Its ultimate goal is, for the subnormal and the "normal" child, optimal health, and for the adult, positive health. As a corollary one might state that if all "normal" children of today (using the term as the biologist would use it) could be made optimal children and these optimal children induced to maintain positive health as adults, the young of the next generation would be well on their way towards being "ideally" normal children.

Chronologically the health examination in its broader aspects developed with the children, the infant through the "feeding cases" supervised by the pediatrists and the older children by way of the school inspections. For the adults, the creation and acceptance of the ideal of health examinations for everybody had its inception during and immediately following the World War. The Woman's Foundation for Health founded the movement in 1919. The matter was first taken up by the House of Delegates of the American Medical Association in June, 1922. The infant and preschool health examinations for all the young children, particularly as this applies to rural children, dates from the acceptance of the Federal Maternity and Infancy Act in 1921. The preschool examinations secured an added impetus in 1925, when the summer round up of the five year olds was inaugurated by the National Congress of Parents and Teachers.

The scope of the health examination is all inclusive. Not only must the physical examination *per se* be done with even more care and thoroughness than the disease examination but the candidate's mental status, habits, behavior and individual environment must be carefully inquired into.

The health prescription must be definite, clear cut and put in simple words in writing and while it deals not only with the candidate's physical self but his mental, social and civic selves as well, it must not include recommendations impossible for the candidate to carry out.

Forms for recording the findings of the health examination are numerous but only three or four are in general use, namely the Periodic Health Examination for adults, the Development Record, and the Infant and Preschool Conference Record for infants and young children. A new form for these younger groups is now being worked out by a sub committee of the Joint Committee on Health Problems in Education.

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CHILD DENTAL CONDITIONS AND THE PROFESSION'S RESPONSIBILITY

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The health of the mouth with its economic, physical, mental and moral phases should be the concern of every citizen; especially is this true with those agencies whose objectives and responsibilities are that of safe-guarding the public health. Dental diseases are one of the most important pubic health problems of the day. The sympathetic co-operation of the official health agencies have been unable to give the public adequate protection against all kinds of disease. Therefore, we must have the unofficial group such as the American Child Health Association, Crippled Children's Society, the National Tuberculosis Society and many others with their subsidary state and local organizations to make up the deficiency until such time as more of the taxpayers and those elected to public offices realize that a broader program of public health is necessary. I would not have you believe that all taxpayers and those elected to public office fail to appreciate the true value of public health. It has, however, frequently been seen, that the people are anxious enough to have a better program and are willing to pay the price at the expense of something else less essential and some of their official representatives deny them the privilege.

The child problem of today is primarily a health problem of such magnitude in relation to the public welfare, that it is attracting and demanding, as it never has before, the attention of those more directly charged with the responsibilities of providing adequate protection. President Hoover so thoroughly appreciates the true value of child health service that he has selected a committee of fifteen, headed by Dr. H. D. Barnard, who is Commissioner of Health of Indiana, to insure a better relationship between the government and the child.

No committee or organization should attempt to develop and carry on a program of dental health education within the state, without first consulting the proper representatives of the different health organizations in order that there may be a complete understanding, harmony of purpose and no duplication of effort. The inter-relationship of the causes and effects of dental and systemic diseases are such as to warrant the sympathetic co-operation of all health agencies if they are to render the greatest possible public service. In this connection, irregularities of the teeth, dento-facial deformities, decay, loss of teeth and infections about the teeth have been found, upon strict scientific and clinical investigation, to be directly and indirectly responsible in causing an astonishingly large number of systemic diseases.

Dental lesions are seldom recognized by the public as causing death as they produce secondary conditions such as nephritis,

endo-carditis, toxemias and predispose the individual to numerous other diseases to which death is attributed. On the other hand, practically all constitutional and systemic diseases are conducive to dental disease. It is this inter-relationship of diseases that make it so necessary for us to consider the subject in all its different phases.

Dental caries is the most common disease known to the human family and peridontoclasia or disease of the gums and supporting structures is second. About seventy-five per cent of the school children in Oklahoma are dentally defective. This is based upon an inspection made by dentists of ten thousand school children in both urban and rural schools. It is conservatively estimated that twenty-five per cent of those examined have confirmed and conspicious cases of malocclusion or irregular teeth. The mouth is a fertile place for the propogation of disease producing germs as it contains those essentials which are so necessary to the life and reproduction of pathogenic bacteria. As it has a copious blood supply and is the gateway to the respiratory and digestive system, it becomes easy to understand how the many different forms of disease germs can successfully invade the system of the individual by these routes. While the common specific and contagious diseases of children, such as measles, whooping cough, scarlet fever, and tuberculosis can not be recognized as being of dental origin, it is safe to assume that they are frequently an important contributory factor by weakening the resisttance of the individual. The same applies to digestive dusturbances, adenoids and diseased tonsils. In some cities where school dental clinics have been operating for two or more years, it has been noticed that many diseased tonsils seem to improve to the point where an operation is considered unnecessary after the teeth and mouth have been placed in a healthy condition. Children having badly decayed teeth and unclean mouths are carriers of contagious diseases which are easily transmitted by careless spitting, the common drinking cup and improperly cleansed eating and drinking utensils.

The detrimental effects of dental disorders are best calculated by making a comparative survey of the actual conditions present. To illustrate: a dental inspection was made in 1924, of all the children in the Lee School of Oklahoma City. About 80 per cent were found to be dentally defective. The survey was followed by the establishment of a dental clinic with a dentist visiting the school one half day a week. A second survey, one year latter, showed that about 65 per cent needed dental service. The dental clinic was continued the second year with the patrons' club financing the clinic. The principal reports that there was a drop of from 45 repeaters for the year in advance of the dental health service to only 19 the succeeding year, which is a reduction of over 100 per cent. There was an increase of 1.8 per cent in attendance. This school is conducted on a very high educational plane, with special rules and provisions made for reduction of demotions and repeaters in opportunity classes. It, therefore, does not offer a fair opportunity for the dental program to make a real demonstration in figures. Figures do not adequately tell the story for it was the exception to find a child with a real dirty mouth after demonstration. A large number of children below par mentally and physically were restored to health by the removal of infected teeth and roots and the same operation was responsible for the correction of a large number of cases of mal-nutrition and digestive disorders. The teachers and school dentist will tell you that they frequently marvel at the rapidity with which some little emaciated looking child will improve after having its dental defects corrected and being taught some real health habits. Innumerable scientific and clinical investigations have been carried on by research workers and those interested in education to prove beyond a doubt that dental inspections and instructions on dental hygiene in the schools are of practical value.

The subject of dental health must necesasarily involve both the medical and dental profession. This being an age of prevention, it naturally entails a comprehensive study and extensive research investigations to provide adequate scientific knowledge to meet the problems. One of the most discouraging factors in this connection is to see so many of our professional men failing to put into common practice the well defined scientific, preventive, reparative and curative methods that have already been firmly established. The physician and dentist should realize at all times, that the future well-being of the child is largely dependent upon the kind of treatment and advice he offers. It is far too

often observed that much harm and many times irreparable damage has been done by well meaning physicians and dentists by advocating a treatment or giving counsel of a faulty or careless nature. There is a tremendous need for a better understanding and working knowledge between the two professions. The good of one is dependent upon the other and any noteworthy advancements in the reduction of dental deformities and caries of the child's teeth must come about through a more effective understanding between the two.

Anomalies of the teeth and dental disease in children have reached such proportions as to need the whole hearted support of all health agencies for their proper solution. While some progress is apparent in more recent years in the prevention of decay, other serious conditions such as faulty eruption and anomalies with their subsequent facial deformities, that impair the health of the body as a whole, are unmistakably on the increase.

Child dentistry (Pedodontia and Orthodontia) is fast becoming the most important branch of dental health service. The dental profession is rapidly being taught that to neglect the child because of the undesirable nature of the work is gross negligence and in addition, the education of the parent is fast pushing the careless and indifferent practitioner out of the way.

One of the next great advances in the prevention of disease and deformities, must come from a better understanding and appreciation of the laws of eugenics. This is a matter that is receiving scant attention. Men and women are unrestrictedly allowed to enter wedlock with all kinds of mental and physical deficiences and allowed to expect normal, healthy children.

It is a generally accepted fact that if we are to improve dental health, our efforts must start during prenatal periods as the teeth start to develop about the sixth week of inter-uterine life. Bones and teeth are largely calcium, and if it is true that as a people we are being starved of calcium; ~~now~~ *can* we expect anything but the very problems with which we are continually confronted. It is not enough that there be a sufficient amount of calcium, it must be balanced with other elements and conditions must be right for their absorption and assimilation.

The various disturbances of pregnancy, errors of diet, vagaries of appetite, lack of exercise and pernicious nausea may, and probably always do, have more or less of an effect upon the future dental development of the child. It is during this period and that of infancy in which the physician should be greatly concerned about the quality of the child's teeth. These are critical months of the child's future health and well-being depends upon the conditioning of the mother.

Before entering into any definite advise in regard to methods and means for the care and protection of baby teeth, it is necessary to explain the important functioning of these teeth, their relation to growth and development of all parts of the head and the reflection of this process of head growth in the general growth and welfare of the child.

During infancy, all parts of the head grow rapidly, and in the case of the normal child, many parts have reached adult dimensions by the time the child is seven years of age. During this most rapid growth period of the child's life, the deciduous teeth erupt. In addition to the baby teeth, the first permanent molars are usually found to be fully erupted within this period of time, and possibly the lower baby central incisor teeth have been shed and the permanent ones have taken their place.

Too much emphasis cannot be employed in stating the fact that it is during this all-important period of infancy and early childhood that the teeth should receive the most careful attention. Their full and unimpaired use is a prime aid to that rapid growth of the head, and any interruption of which has a serious and permanent effect on the general development of the child.[1]

Dr. T. W. Sorrels, who is recognized as an authority on the subject of orthodontia, states that our civilization has so rapidly changed its habits and modes of living with each succeeding generation that the teeth are changing in quality, size, position and number.

One of the most noticeable and detrimental conditions coming about as a result of this revolutionary process is the greatly increased number of children having malposed teeth and disfigured faces.

Orthodontia is a comparatively new science and has been evolved of necessity for the prevalence of malocclusion among the civilized peoples of the world is existent to an appalling degree. Even the most

causal observation will impress one with this fact, if they will but take the trouble to study the faces and mouths of those with whom they come in daily contact. In many instances the condition may be trivial, but a close observation will reveal the fact that thousands of people are afflicted with mal-occluding teeth, which have not only seriously impaired the efficiency of the masticating apparatus, but have stamped the faces of those afflicted with the indelible mark of deformity. The sad part about it is to think that, upon careful investigation of the situation, about seventy five per-cent might have been prevented if the nasal passages had been kept free from obstructions, such as deflectel septums, hypertrophied turbinates and adneoids. In addition, the throat should be maintained in a healthy condition and the deciduous teeth retained their full alloted time and the child kept from acquiring any bad habits of thumb sucking, faulty sleeping and others of a similar nature, all of which are easy to recognize and correct in time to prevent serious disturbances.

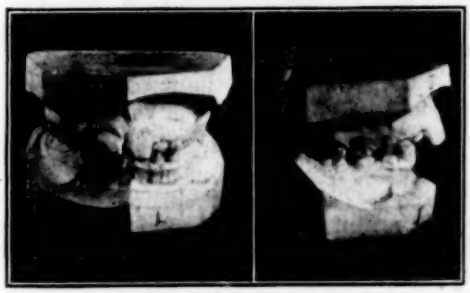

FIG. I

FIG. II

Figures 1 and 2 represent a type of mal-occlusion, which is almost invariably caused by nasal obstructions, chiefly adenoids, which usually cause impaired health and mental deficiency as well as produce an

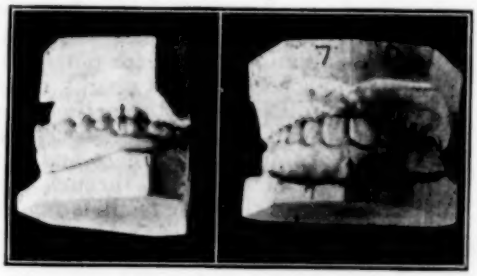

FIG. III

FIG. IV

unsightly dento-facial deformity. Figures 3 and 4 represent the case after having received orthondontic treatment. The results of such treatment is perfectly evident.' Many times the children suffering from such a condition are operated upon by the physician with the expectation of it correcting the mouth breathing which principally is impairing the child's health. The child must of necessity continue to breathe through the mouth on account of the deformity. For want of a better understanding, it is usually called a habit. These advanced cases can only be satisfactorily corrected by establishing harmony in the size and shape of the bones and necessitates early orthodontia treatment following the surgical work.

Most of the stupidity observed in school children is due to poor health, and much of the poor health is directly traceable to bad teeth. Failure psychologically suggests to the child that he is a blockhead—that he cannot learn and make the grade as the other children do; and self-pity or discouragement will probably be the handicap

with which he approaches subsequent tasks.

The baby teeth are all important; the unimpaired use of sound baby teeth guarantees a better preparation and therefore, a better assimilation of food for nutrition. The child in proportion to its weight, must eat and assimilate about three times as much food as an adult. The muscles of mastication are developed evenly and the normal growth of the jaws, through the unimpaired use of the baby teeth, is favorably reflected in the size of important air passages leading from the nose and throat. These passsages serve directly and indirectly in the proper aeration and oxygenation of the blood. If the baby teeth are in full use, the eruption of the permanent teeth will occur in more regular and correct position. Unimpaired baby teeth are a mental and physical comfort to the child and promotes happiness and a general good disposition.

The presence of decayed or infected teeth is the underlying cause of much of at the teeth as well as the throat or feel the pulse. The time has passed when the large number of toxemias and digestive the illness in both adults and children. Abscessed teeth are responsible for such a disorders in children that physicians should make it a rule in diagnosis to look entire education of the child is devoted to mental development while his physical welfare is neglected. The late William Osler, the most eminent medical authority of his time had this to say to a graduating class in medicine. "You have one gospel to preach, early and late, in season and out of season, and that is the gospel of a clean mouth, clean teeth and a clean throat. These three things must be your text through life." Our schools are crowded to overflowing with children pronounced to be "well", yet, have infected mouths which are undermining their health just as surely as cheesy and necrotic tonsils will do so. Demand that the family dentist bear these simple principles in mind and see that each so called "well" child is allowed to remain so. Neglect and misinformation by the unscrupulous and uninformed is responsible for over fifty per cent of the ills in the so called "well" child. This practice has a well defined prohibitive significance to the school child.

A well organized plan of dental health will prevent much physical suffering, and not even a few of us should be willing to condemn others to suffering if a remedy to prevent lies conveniently at hand.

In an effort to apply a remedy to the appalling state of affairs, the pendulum of health service, in recent years, has swung from repair to prevention. There is really no justification for the present-day conditions which exist in the mouths of the people of America. This condition should never have developed, and undoubtedly would have been prevented if its evil effects had been properly understood by the public. It is the wise or unwise advise of the dental and medical practitioner that does much in moulding the lives of little children—it is their duty to qualify themselves or send the child to someone who is qualified to render the kind of service that is needed.'

Tooth decay is largely a preventable disease. The routine practice of correct brushing of the teeth, together with a well balanced diet with the proper selection of foods to meet the individual's needs, coupled with periodical examination and a further observance of the laws of health, will in a large measure illuminate the faulty conditions existing in the mouths of the children.

A united effort on the part of the professions will naturally meet with little success in the way of eradicating the dental ills of the child if care is not exercised in the selection of the practitioner. Select a dentist who understands and appreciates the value of children's dentistry and is fitted temperamentally to care for the child. Success or failure rests entirely upon the selection made. Many dentists make no excuse of the fact that children receive the minimum of care at their hands. This of course is a lamentable state of affairs, so as physicians, you must exercise your right of authority by intelligently advising the parents as to the desirability of reconditioning the mouths of the dentally ill child. If these suggestions are accepted and put into practical application as a rule of practice, the results will be of great value to you and your patients.

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INFANTILE ECZEMA

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Eczema is the commonest of the dermatoses of childhood, and to open this subject is to choose one in which there are many and varied opinions. A concrete definition of this affliction of the skin is hard to give, as the opinions of experts in this field of medicine range from a true dermatitis of external origin, to a manifestation on the skin in answer to a systemic reaction. The true answer involves both of these extremes, as there is undoubtedly an element of each in most cases of infantile eczema. Some patients are born with the eczema tendency, that is they are born with a skin predisposed to the exudative erythemas. Some are born specifically sensitive, those that carry a personal factor of susceptibility. This often manifests itself in childhood when tissue stability is not yet developed and metabolic activity is high. However, just what eczema is, what constitutes eczema, and how it can rightly be defined, are questions upon which there are diversities of opinions. Infantile eczema is clinically and pathologically identical with other eczemas, only it has a symptom medley peculiar to infants and children. That is, it is an affliction of early life where metabolism is unstable and skin is tender. In studying this subject it is of interest to compare the opinions of the earlier writers with those of more recent date. Bateman and Willan confined the term to a process in which vesicles were an essential lesion. The meaning was afterwards enlarged, especially by the French, to include nearly all the skin lesions that were in seeming relation with constitutional dyscrasia such as gout, rheumatism and other pathological phantoms which were held accountable for these varied disturbances. Going to the other extreme, Hebra, and after him the Vienna School, (Kaposi, Finger, Oppenheim) taught that eczema is purely a local disease which can be artificially excited by external irritants. That is, the process is simply superficial inflammation of the skin dependent upon some external cause. Later writers, Pusey, Fordyce, White, Whitfield and most pediatricians returned somewhat to the older idea, and give more importance to the metabolic processes but state frankly that external irritation, and susceptibility play a great part. There is yet the pathological X undetermined.

Pathology: The clinical evidence and the investigation of most observers point convincingly to the catarrhal nature of the disease. Thus it is a catarrhal inflammation of the skin. Accepting a predisposed, weak or debilitated skin from heredity or other causes and the action on such a skin of various stimuli or irritants (Darier, Broca, Fordyce) either from within or from without or from both, will give us our most acceptable explanation of this pathological process. This irritation may start in the form of parasites or microorganisms (Unna, Hebra) or from the products of these, (Gerlach, Grey) or other irritants. Such irritants, heat, actinic, chemical, etc., may be contributory or outstanding in causing the reactionary inflammatory process called eczema. Torock and Neisser believe the disease to be an amicrobic process but admit that there might be a germ element in the later disease processes. Leloir has suggested that the symptom of itching may have its etiology in a primary nerve involvement but other men believe this to be entirely a secondary manifestation. The bacteriology of eczema has been extensively studied by Engman, Sutton, and Fordyce. Engman especially has called attention to the action of pyogenic staphylococcus as a causative agent and has suggested the term infectious eczematoid dermatitis for this type. The histo-pathology of eczema has received the attention of almost every dermatologist of note but it remained for Unna to give us the classical description of the pathological anatomy. Outstanding men differ as to whether the earliest changes are in the epithelium or the papillary layer. The formation of vesicles is another point of divergence of opinion. It is generally conceded, however, that the earliest and most frequent formation of vesicles are by degeneration and expansion in the epithelial cells. The pustule is simply a vesicle with leucocytes added. Parenchymatous edema is then noted in the transitional epithelium and granular layer, thus hindering the process of proper repair. It can be observed from this short description that this process is distinctly an inflammation with a predominance of serous exudation and this is especially true of acute infantile eczema.

Etiology: In reviewing this phase of the subject space permits only a brief discus-

sion. Heredity is one of the first influences to be considered. Though much evidence is lacking in a large proportion of cases the fact still remains that heredity plays a part. A certain number are born specifically sensitive to proteins and pollens and others are marked with that unknown element of susceptibility. It is very possible that these tendencies alone are never responsible for the disease, but such individuals present the disease when subjected to other contributory and exciting factors. The influence of external irritation is undoubtedly a causative influence in a majority of cases. Pusey has said, "The extent of an eczema depends upon the extent of the irritation which produces it." In some cases this irritant can be discovered. In others it cannot. Here again we are confronted with the question of what is eczema and what is dermatitis? In a sense we must limit the term eczema to certain forms of dermatitis ruling out that of a violent nature. Then the external irritants are numerous. These include chemical, thermal, mechanical and actinic. Chemicals as an irritant in infantile eczema are probably outstanding in the form of soaps and other toilet preparations. These either excite a mild dermatitis directly or lower the resistance of the skin so that dermatitis is readily excited by other causes. Once established even water is a distinct excitant.

The thermal or actinic factors in producing an infantile eczema are probably of least importance. A mild sunburn could easily excite an already susceptible skin. Among the mechanical irritants friction undoubtedly comes first. Hot or cold wind or a mild amount of scratching could produce a mild dermatitis from which there is only a short step to a true eczema. The next step then is infection.

The external causes of eczema come more under the head of predisposing than exciting. The lowering of the general resistance including the skin renders it unable to withstand the ordinary irritation to which it is subjected. These influences act frequently through the vaso motor nervous system and produce a disturbance similar to the erythema group of dermatoses so fitly described by Osler. In infants as in adults an important influence in bringing on attacks is over eating with the consequent digestive disturbances which follow. This is in part responsible for the old idea that infantile eczema is seen only in fat babies. Renal deficiency also comes in for its portion as an excitant (Bernhardt and Rygier). The association of eczema and asthma has long been known and this brings us to the subject of eczema and sensitization. Many cases of infantile eczema are specifically sensitive but as a sole etiological influence this can be easily over rated. It often prepares the field and ordinary irrritation produces the eczema. An important influence in this connection is that of heredity (Balyeat). The foods to which these children are sensitive are usually the commonest and most important in their diet—eggs, milk, cream of wheat, etc., and we are often presented with the problem as to which we would rather have —a possible exciting influence on the eczema or a feeding case that easily becomes complicated.

Seborrhea as an exciting and contributory element in infantile eczema cannot be overlooked. To Unna goes the credit of clarifying this relation. His original conception announced in 1887 has met with but little modification. Oppenheim says that 40 percent of infantile eczema is seborrheic in origin. So it behooves us to give our attention to the scalps of these little patients.

Treatment: The principles of treatment in infantile eczema are: first, to treat the most outstanding symptoms, remove the external irritation if possible, build up a resistance in the skin, and correct internal disorders. Then a careful history of both the mother's diet and the diet and care of the baby must be taken and a repeated examination of the stools. Food sensitization is of importance and in breast fed infants the problem of sensitization is more complicated, and food tests are of value. Other substances such as wool, feathers, hair, etc., are of less importance yet must not be overlooked. In the bottle fed babies the element of sensitization is much easier controlled. These cutaneous tests should be made by some one thoroughly equipped for the work. In some cases these tests as diagnostic and clinical measures are very striking but as a routine, clinical experience does not bear this out. Then this may be considered only as contributory factors in these cases. Too strenuous an effort in the correction of food sensitization is of no small moment, as it leads to a pitfall—the therapeutic paradox; and as in syphilitic hepatitis, as Wile has expressed it, the patient might die of the cure of his own disease. Of course in infantile eczema this

is only true in so far as a food deficiency disease is produced by the limited diet. It is possible in this connection through careful management to desensitize some of these babies. The baby should be under the care of one who is accustomed to the problem of infant feeding and very careful attention should be given to the slightest form of gastro-intestinal disorders. In well nourished babies the milk should be diluted more than has been the practice and the sugar content should be restricted. Mild aperients are of use in most of these cases at the beginning of treatment. The question of turning these children over to the care of the pediatrician totally is one of some dispute. I think there should be a close cooperation between the dermatologist, the pediatrician, and the immunogolist, but so far as possible the dermatologist should direct most of the care. There is rather an old idea especially in the general profession that infantile eczema is entirely a systemic and dietetic problem, and that local treatment is of little importance. I think this is entirely refuted by the results usually obtained by this narrow idea of treatment. The thing that brings the patient to the doctor is the marked itching and as this is the outstanding symptom it should receive first attention. If crusts are present these should be removed as they only harbor infection and excite the symptoms. A nice preparation for this purpose is boric acid and resorcin water with 1-2 to 1 percent phenol used as wet dressings. Another preparation is a bland oil or vaseline containing 1-2 percent phenol. After these surfaces are cleansed and the weeping is controlled I use crude tar ointment made after the formula of White; and alternate this with a thin calamine lotion using the ointment at night and the lotion in the day time. To remove the ointment, olive oil or cold cream is used. There has been some modified tar distillates put on the market lately but I have found these far inferior to the old formula first suggested by White. It seems that from these tar distillates there has been eliminated some of the phenols which have a beneficial action. The problem of the application of the tar ointment is one which bothers many. I find it best to cover the affected part with a thin layer of ointment and hold it in place with a mask. Another alternate for the ointment is the calamine liniment suggested by Pusey. In the acute weeping type of eczema, an astringent wet dressing of aluminum acetate acts admirably. These may well precede the tar ointment. An ointment, naphthalan, has been suggested but I do not find it to compare with the crude coal tar. We must be careful in the prolonged application of tar as here we might find a soothing application turned into an irritant.

The seborrheic type of eczema represents a great portion of this affliction. Space does not allow it to be considered thoroughly. The scalp of these patients should always be inspected and the slight "milk crust" we often see should not be ignored. Whenever this is noted a treatment for seborrheic eczema should be instituted.

To control these small patients is often a great problem. It has been called cruel to restrain them but this is very necessary as a measure of treatment. A little scratching can easily undo a week of therapeutic efforts, so it is essential that this be prevented. There are many means by which this can be accomplished; the hands may be muffed with gauze, a pillow slip may be used as a sort of straight jacket and pinned to the mattress; sleepers with closed arms and legs may also be employed. The child will submit to these jackets with no resistance after a short time and they add a great deal both to the comfort of the child and the doctor. I have not resorted to the use of X-ray in these cases as there is always a danger in these tender skins of a telangiectasis and an ever present public willing to sue. The whole principle of treatment must be kept in mind, that is, to sooth the irritation of the skin and allow a resistance to be built up and to correct systemic disorders. Each case of infantile eczema is a separate problem and we cannot standardize the treatment or reduce it to a text-book formula or drug-house therapeutics.

413 Medical Arts Building.

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EDITORIAL

OUR PEDIATRIC ISSUE

Some months ago in a conversation with an Oklahoma City physician it was decided to attempt to publish an issue of the Journal devoted entirely to the problems of child health and pediatrics, especially those which now confront the Oklahoma physician. Thousands of Oklahoma children, former students, are entering school, while other thousands, very young and tender, are entering for the first time. Many of these have no protection whatever from their parents, and their environment and daily life precludes any protective measures against their acquiring any one of many illnesses, ranging from mere inconveniences to those resulting in fatalities.

This issue of the Journal is composed of articles upon "Respiratory Infections in Children"; "Tuberculosis in Children"; Hypertrophic Stenosis of the Pylorus"; "Diagnosis of Foreign Bodies in the Air and Food Passages"; "The Importance of Endocrinology in Pediatrics"; "The Health Examination"; "Child Dental Conditions and the Profession's Responsibility"; "Infantile Eczema."

Respiratory Infections, problems incident to endocrine dysfunction, tuberculosis and dental conditions are enormously prevelant, while the other conditions must always be borne in mind. The important thing, if it can be impressed upon parents and school boards, is a general physical examination of all children, but that is presupposing almost the millennium.

The object of this issue, of course, is to emphasize to the general practitioner of Oklahoma some of the problems of infantile and juvenile life which he may be called upon to combat. If he is thoughtless and unprepared his cases may be listed among what more often should be the mere inconveniences, but become the fatalities.

MEDDLESOME INTOLERANCE

In an address to the House of Delegates, at Portland, the president, Dr. Wm. S. Thayer, Baltimore, concluded his remarks as follows:

"But there are lengths beyond which a majority may not go. When in a country like ours the national government attempts to legislate for the whole country as to what we may or may not eat or drink, as to how we may dress, as to our religious beliefs or as to what we may or may not read, this is to interfere with rights that are sacred to every English-speaking man. This is no longer republican government; it is tyranny. In the long run we English speaking people will not endure tyranny. For immediate concentrated mass action such as is necessary in time of war. such government is necessary. We accept it; we demand it. But in time of peace we insist on certain local and individual liberties which we regard as rights.

The Congress of the United States is not made up of men who desire to establish a tyranny. Far from it! But in certain ways,

against the warnings of wise and temperate men such as the Chief Justice, they have passed laws which are intemperate, meddlesome and may justly be regarded as tyrannical. As a nation, we have of recent years set a rather sorry example in the passage of inconsiderate, ill considered and intolerant prescriptions and prohibitions, prescriptions and prohibitions some of which may be proper enough in certain localities where they represent the desire of the majority, but which, when applied to the country at large, interfere with the personal liberties of the people. Such laws cannot be enforced; they defeat their own ends. Intolerance is the most fatal enemy of liberty.

No legislative body can fail to make mistakes. At times this House has made mistakes—and, to its credit, has acknowledged them. But at the end of my term I desire to testify to my admiration for the spirit shown by the officers who are the managers and directors of your association and for the temperance and good judgment of this body. You will forgive me saying that at this hour when as a nation we are in some respects setting a rather sad example of reckless and intemperate law making, it is especially desirable that, while discussing matters with all freedom, we should try hard not to be carried away by the spirit of the time; that we should carefully consider all sides of the question before us. Let us try to find the happy mean and realize that, with regard to most questions, tolerance and moderation and consideration for local opinion and conviction, and wise general recommendation, often have greater force than hasty and ill considered decrees and prohibitions.

This body in the past has set an enviable example of wisdom and restraint. Let us continue to be true to our tradition."

Commenting upon the above, the New England Medical Journal (b) notes that Dr. Clarence True Wilson, who by the way is not a "doctor" but belongs to that fraternity, who when they transgress the bounds of moderation and good sense, are often alluded to as "sky-pilots"; took exception to Dr. Thayer's remarks declaring that "dragging the legal and political question of prohibition into an annual address before the Medical Association is a questionable proceeding, unpatriotic and out of taste."

We have suggested before that Oklahoma physicians are helpless in such matters as the prescribing of alcoholic liquors, regardless of how badly and desperately a physician may need alcoholics in some form occasionally, yet he has no legal way of securing it, prescribing it, ordering it, or administering it. Yet surely the most intolerant of prohibitionists will not contend that there are occasions when alcoholics in some form, is not a life-saving measure.

The Journal fully agrees with the statement of Dr. Thayer and we feel intemperate enough to go further and use coarse language by asserting that Congress, dictated to by certain elements of pop-eyed reformers has exceeded the bounds of good sense, and, measured by legal views as applying to other problems of national interest, at the behest of the same intolerants, have forced the medical man into a situation never dreamed of by the makers of the Constitution. Evidently Dr. Wilson and all his ilk seem to overlook the position of Dr. Thayer and the mass of the medical profession, the principle of which may be stated, is that the medical profession believes that it is the sole and best judge as to its own affairs, that the invasion of its rights by Congress, or the dictation of its acts by Congress or anyone else, in a purely professional matter, on the face it is silly, absurd and senseless.

So far as is known Dr. Thayer is an abstainer from the use of alcoholics, the writer is practically an abstainer from the use of alcoholics and has been for a long time. For five years the writer has had free access to unlimited amounts of various forms of alcoholics for legitimate use in treatment of illness. As a matter of fact very little of it is necessary in the legitimate practice of medicine, especially for internal administration, but at times it is vitally necessary to life, has no efficient substitute and deprivation of it by legal subterfuge is an inexcusable outrage. The Journal, as representative of good citizens, the organ of hundreds of good Oklahoma citizens, however, resents and protests the interference of non-medical men in the most difficult of problems, those confronting the man following the profession of medicine. We do not think it expresses good sense or good taste on the part of professional prohibitionists to attempt to criticise and belittle the mature judgment of a great citizen and scientist

as embodied in the person of Dr. Wm. S. Thayer.

(a) Jour. A. M. A., Vol. 93, Number 3, July 20, 1929.

(b) New England Jour., Vol. 201, Number 5, August 1, 1929.

Editorial Notes—Personal and General

DR. L. T. GOOCH, Lawton, visited the clinics at Rochester in August.

DR. W. R. MARKS, Vinita, visited the Rochester Clinic during August and September.

DR. C. A. BEELER, formerly of Pawnee, announces his removal to Cherryvale, Kansas.

DR. and MRS. ELLIS LAMB, Clinton, have returned after a months' visit to western coast points.

DR. J. L. REYNOLDS, Tulsa, announces his removal from 812 Medical Arts Building, to 723 Mayo Building.

DR. and MRS. EMORY S. CROW, Olustee, have returned from California where they spent the past month vacationing.

DR. C. A. THOMPSON and family, Muskogee, spent two weeks at Rochester and Minnesota points in August and September.

DR. W. J. TRAINOR, Tulsa, spent the month of August in Boston, taking special work in Cardiology under Dr. Paul White at the Massachusetts General Hospital.

DR. T. W. STALLINGS, Tulsa, suffered a fractured fibula on June 16th, while mowing the lawn. He is now able to be at the office, and reports that he is getting along very well.

DR. ROBERT E. THACKER, Lexington, is taking an extensive course in electro-therapeutics in Indianapolis, Philadelphia and New York. He will return to his home on October 1st.

DR. CHARLES RICHET JUNION, Professor of Medicine, University of Paris, Paris, France, lectured at the Balyeat Hay Fever and Asthma Clinic on "Food Anaphylaxis" September 7th.

DR. C. DOLER, Elk City, has returned from New Orleans, where he has been attending the Tulane Medical College for the past year. Dr. Doler is connected with the Tisdal Hospital, Elk City.

DR. and MRS. W. J. ADAMS, Ponca City, have returned from El Paso, Texas, where Dr. Adams completed a 14-day assignment at the army reserve officers' camp at Ft. Bliss, serving as a captain in the Eighth Cavalry.

DR. GEORGE R. OSBORN, Tulsa, is recovering from a succession of so-called minor but incapacitating ailments, the latest complication being a neuritis which he declares is the most severe type of pain known to man. He hopes to be able to resume practice in the near future.

DOCTOR HENDERSHOT DEAD

As the Journal goes to press the shocking news of the death of Dr. Claude T. Hendershot, Tulsa, President of our Association, due to an attack of apoplexy, becomes the sad news of the day. His death occurred Sunday, September 8, midnight, after less than twelve hours' illness. He was apparently in splendid health.

Dr. Hendershot was born in 1875 in Indiana. He graduated from the Kentncky School of Medicine in Louisville, in 1897. He has been located in Tulsa since that city was a small town. He was general practitioner of medicine, Secretary of the Staff of St. Johns Hospital, as well as President of the Tulsa County Medical Society.

Suitable resolutions and memorials will appear later in this Journal.

DOCTOR JOHN ROBERT COLLINS

Dr. John R. Collins, age 50 years, a practicing physician of Nowata since 1908, died at St. Joseph's Hospital in Kansas City, Mo., Tuesday, August 13th, 1929. Complications following an operation for appendicitis.

Dr. Collins was a graduate of Grant University, Chattanooga, Tenn., and after receiving his degree he practiced in North Carolina for several years. He came to Oklahoma in 1908, settling at Nowata, where he resided until his death.

He was a member of the American, State and County Medical associations, having served as secretary of the local association since its organization. He was also a member of Akdar Shrine at Tulsa, McAlester Consistory, Blue Lodge at Culberson, N. C., Sunrise Chapter, O. E. S., Nowata, and B. P. O. Elks.

He is survived by his widow, one daughter, four sons and three brothers.

Funeral services were held August 15th. The Masonic Commitment Service being given at the grave. Interment was in Nowata Cemetery. Deceased was one of the most popular physicians in Northeast Oklahoma, and this was attested in the large funeral and the number of beautiful floral offerings. The funeral of Dr. Collins was the largest ever held in Nowata county.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
1109 Medical Arts Bldg., Tulsa

Intracapsular Extraction without Iridectomy, Morton, H. McI.: Am. J. Ophth., 1929, xii, 90.

A brief sketch of the history of intracapsular extraction of cataracts is given. The author believes that a round pupil is essential for an ideal cataract operation. In his last twenty-six intracapsular extractions, he performed an iridectomy only once. In the twenty-five cases without an iridectomy the visual results were good. In eighteen, the pupils were perfectly round. In seven, there was iris incarceration, but this seemed to have little effect upon the vision.

In the author's technique, an 8 percent cocaine solution with adrenalin is instilled four times, the lashes are cut, the conjunctival sac is irrigated with a 1:10,000 solution of bichloride of mercury, and the conjunctiva is mechanically cleaned by vigorous rubbing with cotton soaked in the same solution. Further irrigation is then done with sterile water. The pupil is dilated by atropine unless there is increased tension. The lids are controlled with a speculum. The unmutilated iris helps materially to restrain vitreous prolapse, but if prolapse occurs the lids are immediately closed. The bandage is left on from six to eight days unless the eye becomes painful.

The Modified Radical Operation on the Mastoid, Smith, C. H.: Arch. Otolaryngol., 1929, ix 135.

The modified radical operation on the mastoid is indicated particularly in cases of chronic otitis with small perforations in the upper part of the drum and relatively good hearing. It may be performed also in those with good hearing on the affected side and nearly total loss of hearing on the opposite side. In cases of the former type and in many cases of the latter type a dry ear with cicatrization and at least conservation of hearing may be expected. Another advantage of the operation is accelerated healing.

The author cites the experience of various surgeons with the modified radical operation and reports several of his own cases in which it was performed.

Diagnostic Uses of Lipiodol in the Paranasal Sinuses, Frazer, R. H.: Radiology, 1929, xii, 6.

The author has found examination of the paranasal sinuses with the aid of lipiodol introduced by injection or "suffusion" of great value, especially in baffling rhinological cases. He describes the technique used in introducing the oil and in making the roentgenographic study, and illustrates the types of problems suitable for investigation with iodized oil by reporting four cases in some detail.

The method is of value for the following purposes:

1. To rule out sinuses which are cloudy to transillumination and primary roentgen-ray examination soley because of anatomical peculiarities.

2. To determine which sinuses are affected and which unaffected by a pathological process.

3. To reveal extension to the sinuses of neighborhood inflammation or malignancy.

4. To determine the effect of conservative treatment over a period of time.

5. To determine what grades of anatomical change in the various inflammations are capable of resolution without radical surgery.

6. To determine the type of operation indicated and the direction of approach and the drainage.

7. To determine the site of the pathological tissue which is to be removed and the site of attachment of polypi.

8. To check the success of preceding surgical procedures.

9. To determine the cause of chronic symptoms following operation.

From the purely roentgenographic point of view the method is of value because it reveals beginning changes earlier than other methods, reveals soft tissue growth, multiplies the number or extent of separation lines so that they may be interpreted, and reveals the thickness as well as densities.

A Dermoid Cyst of the Floor of the Mouth; Report of a Case, Figi, F. A., and Harrington, S. W.: Surg. Clin. N. Am., 1929, ix, 89.

True dermoid cysts are rare in the mouth although they occur frequently in other parts of the body. They are believed to be of congenital origin but often do not become evident until early adult life. The patient with a dermoid cyst of the mouth may be unaware of its presence until it interferes with speech or becomes large enough to cause a visible submaxillary swelling.

The differential diagnosis frequently depends upon microscopic examination although ranulae and mucous cysts have thin, glistening walls and a bluish appearance whereas the wall of the dermoid cyst is thick and often pits on pressure. The treatment of dermoid cysts is complete excision.

The authors report the case of a boy fifteen months old who had a dermoid cyst beneath the tongue and a sinus beneath the chin from which a thick creamy material was readily expressed. Physical examination was otherwise essentially negative. The cyst was removed through an extraoral incision without rupture of the mucous membrane of the mouth or of the cyst. Recovery was uneventful.

TUBERCULOSIS

Edited By
L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Industrial Tuberculosis, Sidney J. Shipman, M. D., Jr. A. M. A., vol. 93, No. 4, p. 257.

The industrial hazards as they affect tuberculosis, are trauma, exertion, dust inhalation, the inhalation of chemical substances, and poor working conditions.

The effect of trauma may be either local or

general. The general effect may be loss of appetite and weight, fatigue—resulting from pain with its consequent lowering of general resistance. Unusual exertion may be followed by hemoptysis or spontaneous pneumothorax. A soft lesion, possibly with thin-walled cavity. These accidents might have occurred without injury, then the disease itself should be considered the predominating influence.

Tuberculosis may follow pneumonokoniosis and indirectly be industrial, but definite evidence of the primary condition should be the criterion of the industrial phase. Assertions have been made that tuberculosis is the result of inhalation of various chemical substances; ammonia, sulphur and various acid fumes, but exposure must have been prolonged and led to impairment of the general health.

The author states that he has never seen a case of industrial tuberculosis which could be ascribed to poor working conditions. He thinks insufficient rest and food, which often go with this type of employment are the leading factors.

Tuberculosis of the Gall Bladder, James T. Case, M. D., Annals of Internal Medicine., Jan., 1928.

"Tuberculosis of the gall bladder is one of the rarest of pathological findings."

The author gives a brief synopsis of the eight cases that have been reported in the literature, reports his own case which was the first one reported in America, and concludes by saying that tuberculosis of the gall bladder has no clinical entity and cannot be differentiated clinically from other forms of cholecystitis. Its diagnosis rests entirely upon the pathological examination. The mucosa possesses a very high degree of immunity against infection by the tubercle bacillus. When such an infection does occur it is probably always an excretory infection, by way of the bile, of bacilli arising from some other tuberculous focus, latent or active, within the body.

The Benign Course of Apical Tuberculosis, Maurice Fishberg and Arnold Shamaskin, Journal of A. M. A., Vol. 93, No. 2.

Patients with apical lesions may keep well for many years even though they cough, expectorate blood at times, and even have tubercle bacilla in the sputum. It appears that the majority of these apical lesions have a benign course, show no tendency to spread, and only rarely develop symptoms of active, progressive, and fatal tuberculosis. The authors examined 1000 X-ray plates. In the majority it was impossible to determine where the lesion first appeared, but in 160 cases the roentgen signs were quite clear. Of these they found that in 107 the earliest lesions appeared in the infraclavicular region, while in 60 it was confined to the lung above the clavicle. They found that 31.7 of the patients with apical lesions survived 10 or more years after the lesions made their first appearance. Despite extensive involvement of apexes some of the patients felt fairly well for more than 20 years. But not so in the infraclavicular group, only 1.8 percent lived that long. The infraclavicular lesions produce costitutional symptoms of active and progressive phthisis; often leading to a fatal termination. Thorough and skilful physical examination often fails to discover these lesions and they are only discovered by X-ray. These lesions seem to occur mainly in adolescents and young adults; nearly 90 percent occur in persons under 35 years of age. For this reason some authors have been inclined to view these lesions as due to exogenous reinfections.

Tubercle bacilla are more often found in the sputum in patients with infraclavicular lesions. Patients with apical lesions were just as apt to hemoptysis as those with lesions below the clavicle, though copious hemorrhages are more likely in the latter group.

In many early infraclavicular infiltrations the process is soon absorbed, even cavities which have formed quickly may disappear, but in the majority of cases the onset is more or less acute and the course in progressive. These cases when recognized in time are best suited and likely to be favorably influenced by artificial pneumothorax.

BOOK REVIEWS

THE CLIMACTERIC (THE CRITICAL AGE). By Gregorio Maranon, professor of pathology in the Madrid General Hospital, member of the Royal National Academy of Medicine. Translated by K. S. Stevens. Edited by Carey Culbertson, A.B., M.D., F.A.C.S., assistant Clinical Professor of Obstetrics and Gynecology, Rush Medical College of the University of Chicago, etc. Illustrated, cloth, 425 pages. Price $6.50. C. V. Mosby Company, St. Louis.

The Climacteric is one of the problems, often a vexing problem, confronting the family physician. The author attempts in the work to connect various glandular and endocrine dysfunctions with the many phenomena observed during that critical time of life known as the climacteric. This book is interestingly written and is full of helpful ideas.

CONGRESS OF MILITARY MEDICINE. Report of the Fourth International Meeting of the Congress of Military Medicine and Pharmacy, Warsaw, Poland, May, June, 1927. By Commander Wm. Seaman, Bainbridge, M. C. F., U. S. Medical Reserves. Cloth, illustrated, 248 pages. The Collegiate Press. Geo. Banta Printing Company. Menasha, Wis.

Citing the fact that there has always been a bond of sympathy between the Polish and American people dating from the days of our Revolutionary Army, Surgeon General Ireland of the U. S. Army feels special gratification that the United States was represented by five official delegates at the meeting. The volume is a statement containing many abstracts of articles and addresses read at the meeting and will prove especially of interest to the Medical Reserve Officers of the United States Army and Navy.

PHYSICAL THERAPEUTIC TECHNIQUE. By Frank Butler Granger, M.D. Late Physician-In-

Chief, Department of Physical Therapeutics, Boston City Hospital; Director of Physiotherapy, United States Army; Medical Counselor, United States Vererans Bureau; Member of Council on Physical Therapy, American Medical Association; Instructor of Physical Therapeutics, Harvard Medical School; Assistant Professor of Physical Therapy, Tufts Medical School. With a foreword by William D. McFee, M.D., Boston, Mass. Octavo volume of 417 pages with 135 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth $6.50 net.

Physical Therapeutic Technic has found a definite place in the practice of medicine, despite the fact that it has fallen and is further falling into the hands of incompetents and their "cults" who by lay advertising lead people to believe that the impossible may be accomplished. As the writer sees it, physical therapy is a proper adjunct to the intelligent treatment of many pathological conditions, but it should never be applied empirically and just for the sake of having something to do. Granger, in this work, approaches the problems of physical therapy in a scientific manner.

THE NEUROSES. By Israel S. Wechsler, M.D., Associate Professor of Clinical Neurology, Columbia University, New York City. Octavo of 330 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth $4.00 net.

The author believes the Neuroses constitute the most ill defined and least understood clinical entities in the whole domain of Medicine. His work is based upon the clinical experiences derived from contact with patients and the study of normal and abnormal psychology. The book should prove of interest to the general practitioner and interne interested in the neurotic patient.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, (one number each month). Volume 9, number 3. (New York Number—June 1929) 299 pages with 125 illustrations. Per Clinic year (February, 1929 to December, 1929.) Paper $12.00; Cloth $16.00. Philadelphia and London.

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928, Volume XX. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M.D., and Mildred A. Felker, B.S. Octavo Volume of 1197 pages with 288 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, $13.00 Net.

Annually the Mayo Clinic and the Mayo Foundation issue a volume of collected papers summarizing the experiences of the past year. Many of these papers of course have previously been published in various Medical Journals. The present volume considers 429 papers, eighty-one reprinted in entirety, forty-three abridged, seventy-two abstracted and 233 are mentioned only by reference.

"The Thyroid Problem" by Boothby; "Iodine and Thyroxin Content of the Thyroid Gland" by Kendall and Simonsen; "Function of the Thyroid Gland" by Plummer; "Iodine Treatment of Patient with Exophthalmic Goitre" by Sistrunk; "Operative Indication" by Pemberton; "Preoperative Treatment" by Haines; "Subtotal Thyroidectomy for Goiter" By Rankin; "Oxygen Treatment after Thyroidectomy" by Haines and Boothby, constitute a collection of highly valuable information to those interested in Hyperthyroidism.

"Surgical Lesions of the Kidney" by Verne C. Hunt is extremely interesting as is "Stricture of the Ureter" by Braasch. "Tuberculosis of the Genital Tract" is contributed by Hermon Bumpus and G. J. Thompson.

"The Surgical Treatment of Malignant Tumors of the Bladder" by Verne C. Hunt. "Status of the Prostatic Punch" by Hermon C. Bumpus; "Suprapubic Prostatecomy: Its Hazards and Factors of Safety" by Verne C. Hunt.

There are many more valuable papers in this issue which space prohibits even mentioning, nevertheless to the practitioner they are of extreme worth and the volume should find a place in every physician's library.

KANSAS CITY ANNUAL FALL CLINICAL CONFERENCE

In this issue of the Journal there appears a condensed program of the Kansas City Southwest Clinical Society's seventh annual clinical conference to be held at Kansas City, Missouri, October 7th to 11th inclusive. Seldom has there been such an array of distinguished guests on a program as is noted in this meeting and this seventh conference of this organization is expected to be the biggest and best it has ever had.

The Clinical Society was organized in 1922 for the purpose, as set forth in its Constitution, (1) "To promote, encourage and develop the educational advantages of the clinical material of Kansas City that they may be available throughout the year to visiting physicians," and (2) "To hold an annual clinical conference which will demonstate and emphasize the progress of medicine throughout the world for the benefit of physicians and surgeons of the Southwest." During these past seven years the Kansas City Southwest Clinical Society has enjoyed a most successful and enviable career and it can conscientiously boast of its great progress and growth.

A new feature of the meeting this year will be the Post Graduate Courses to be given daily. Special class rooms are being prepared and the instructors will be drawn from the distinguished guests and membership of the Society. Every visitor can receive a complete Post Graduate training in his particular specialty.

Two special sessions should be noted, namely that of the joint meeting with the Kansas City Eye, Ear, Nose and Throat Society on Tuesday evening with Dr. Finnoff of Denver, Dr. Jackson and Dr. McCrae of Philadelphia as the principal speakers; and that of Thursday evening, a joint meeting with the American Committee for the Control of Rheumatism. The subject of arthritis which is to be discussed by the committee at this meeting should be most interesting and instructive.

Plenty of entertainment has been provided, the Smoker on Tuesday evening, the Alumni Dinners on Wednesday evening, the Golf Dinner on Friday evening, in fact nothing has been neglected in trying to make the entire meeting the most profitable and instructive of any meeting held in the Southwest.

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FOR SALE — Late Model Dynelectron Diathermy machine.—Mrs. R. J. Nichols, 1021 West Okmulgee Ave., Muskogee, Oklahoma.

FOR SALE—Due to accident which will no doubt prove fatal, doctor's wife is obliged to dispose of complete deep therapy X-ray equipment consisting of Victor Snook Special Combination Deep Therapy Diagnostic Equipment 220V. 60CY. complete with Deep Therapy Combination Table and Tube Stand, Coolidge Equipment, High Voltage and Universal Tubes, 3-4 inch Carona Proof Aerial, Stabilizer, Timer, Combination Radiographic, Fluoroscopic Table, Dark Room Equipment, Etc. Also Complete Physicial Therapy layout. X-ray equipment in excellent condition, installed May, 1926, estimated value, new, approximately $8,000.00. Make cash offer. Will sell all or part f. o. b. Oklahoma. 8—4t.

FOR SALE—Good practice and small hospital in stable Oklahoma oil town. Any good man can have smooth sailing. Can turn over some industrial work, will introduce buyer. Cash receipts last year over $12,000, will be more this year. Hospital can be used as residence and office if hospital is not wanted. New building, low rent. Priced to sell. I am obliged to leave on account of family. Terms. If you mean business, address: "S" in care of the Journal. 9—1t.

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